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USE AND ABUSE OF BLOOD TRANSFUSION

Bernard Straus, M.D.
and
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The increased availability of blood due to the widespread establishment of blood banks has resulted in an enormous increase in the use of blood transfusion in clinical medicine. In the Veterans Administration hospitals since 1949 there has been a utilization of 14,000 to 16,000 pints of whole blood monthly.[1] This represents a great increase over former years. The war gave a great impetus to the wider use of transfusion. Mechanisms were set up for the procurement of large amounts of blood, which were adapted to civilian practice. During the war the lives of many young persons with acute blood loss were saved by transfusion; however, war-time experience cannot be completely translated to peace-time practice, where blood loss is apt to be more chronic, with resultant homeostatic adjustments. Also, in civilian practice the rapid administration of blood in large quantities to elderly persons is dangerous. A rapid increase in blood volume not infrequently precipitates cardiac failure and pulmonary edema. This may occur not only in persons with cardiac disease but also in patients with sound hearts. "The capacity to withstand increased load is impaired by the aging process."[2]

While the greater utilization of blood has produced a significant improvement in the management of hemorrhagic states and in surgical practice, it has resulted in an over-all increase in transfusion accidents and disease that has given rise to widespread apprehension.[3] Among the complications of transfusions that have been observed at the Veterans Administration Hospital, Bronx, N. Y., in a two year period, are pyrogenic, hemolytic, sensitization and speed reactions, malaria, homologus serum hepatitis, transfusion hemochromatosis, and hemoglobinuric nephrosis. These are complications that have been observed generally wherever numerous transfusions are given. Deaths due to contaminated blood have been reported from other institutions.[4] More than 100 cases of the transmission of syphilis by transfusion have been reported.[5] This danger is obviated, however, with bank blood, since laboratory studies in experimental syphilis in rabbits have demonstrated that Treponema pallidum becomes avirulent and will not transmit syphilis when present in blood under blood bank conditions for 96 hours.[6]

The uses of blood are elastic and various. Ready availability often inspires the familiarity that breeds contempt. The meticulous attention to detail that is essential to keep transfusion accidents at a minimum unfortunately is not always observed. Reactions thought to be due to pyrogens have been ignored, with death resulting from contaminated blood. Frequently the indications that are observed for transfusions are vague. They include such widely disparate reasons as anemia and the maintenance of morale of anxious relatives. There has been an increase in the "cosmetic transfusion," which is the pernicious practice of administration of blood to patients with normal blood counts in the vague hope that it will have a tonic effect on the patient physically or mentally, or because his relatives have deposited blood in the blood bank. Transfusions have been given to moribund patients with uremia and to patients in extremis due to cancer. Blood has also been given in the absence of anemia simply because of a history of blood loss or because of anticipated blood loss. In the operating room blood transfusion has been employed as a substitute for experience, and avoidable sur-

From the Medical Service of the Veterans Administration Hospital, Bronx, N. Y.
Drs. B. S. Gordon and A. F. Liber of the Clinical Laboratory assisted in this study.

1. U. S. Veterans Administration, Dept. of Medicine and Surgery: Station Letter on Blood Transfusions, Jan. 11, 1952.
2. Principles of Internal Medicine, Harrison, T. R., and others, editors, Philadelphia, Blakiston, 1950, p. 159.
3. (*a*) Abuse of Transfusion Therapy, editorial, New England J. Med. **245**:745 (Nov. 8) 1951. (*b*) Soutter, L.; Allen, F. H., Jr., and Emerson, C. P., Jr.: Medical Progress: Blood Grouping, Blood Banking and Blood Transfusions, ibid. **245**: 367 (Sept. 6) 1951; **245**: 410 (Sept. 13) 1951. (*c*) Ginzburg, L.; Sussman, L. N., and Auerhan, H.: Posttransfusion Viral Hepatitis as a Surgical Complication, Surg., Gynec. & Obst. **92**: 492 (April) 1951.
4. Borden, C. W., and Hall, W. H.: Fatal Transfusion Reactions from Massive Bacterial Contamination of Blood, New England J. Med. **245**: 760 (Nov.) 1951.
5. Füssganger, R.: Kann eine Transfusionssyphilis durch chemotherapeutische Mittel verhindert werden? Deutsche med. Wchnschr. **75**: 1024 (Aug. 11) 1950.
6. Probey, T. F.: Influence of Irradiation and Penicillin on Experimental Syphilis Transmission, Pub. Health Rep. **66**: 644 (May 18) 1951.

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gical errors have been redeemed by liters of blood. Since blood is a commodity and an essential therapeutic agent that is in short supply, its use for trivial purposes may deprive patients who are urgently in need of blood of a life-saving form of treatment.

It was therefore thought of value to analyze a consecutive series of transfusion requests in approximately 100 patients with the idea of determining the indications observed, the benefit derived, and the incidence of reactions. From Aug. 20, 1951, to Sept. 10, 1951, inclusive, 399 units of blood (500 cc. each) were requested and sent from the blood bank for 136 patients. Of these 136 patients for whom blood was requested, 106 actually received it. Thus 30 patients did not receive any blood. Blood was returned for various reasons, including overestimation of requirements for an operative procedure or medical condition or postponed or canceled operation (in 19 cases), reconsideration of the need for transfusions (in 86 cases), and discharge or death of the patient (in 4 cases). Thus 109 units (27.3%) of blood ordered were returned. Of these, 29 units became outdated and were discarded. Overdrawing of blood from the blood bank is, of course, clearly undesirable, since it increases considerably the work of technicians, attendants, and nursing staff in cross-matching, labeling, and delivery of

TABLE 1.—*Number of Transfusions Given When Indicated and Not Indicated*

	Medical Conditions	Surgical Conditions
Units indicated	70 (83%)	171 (83%)
Units not indicated	14 (17%)	24 (11.6%)
Units questionable	0	11 (5.4%)
Total no. given	84	206

the blood. It also introduces added hazard since the wards are not equipped with refrigerators capable of maintaining the necessary low temperatures for blood storage. As a result, blood is wasted and the hospital budget is taxed unnecessarily. A reasonable percentage of blood returns, if proper discretion and judgment are employed, is believed to be 10 to 15%.[7] Returns totaling 27.3% are excessive and suggest that insufficient thought is devoted to the ordering of blood.

An analysis was made of the indications employed in the administration of the 290 transfusions that were actually given. The considerations that governed the conclusions arrived at were the general condition of the patient, the diagnosis, the hemoglobin content, the erythrocyte count, the hematocrit reading and in some cases the duration of life following the transfusion. Death within a week of transfusion in the chronically ill was held suspect. It was considered that transfusion employed for complete correction of the red cell deficit in patients with chronic uremia and anemia and metastatic carcinoma was not justified. Transfusion in the presence of a normal blood count or to correct a mild anemia to above normal levels was also considered not indicated. The following criteria were employed for the appraisal of the need for transfusions: (1) a red blood cell count of 3.5 million or less in medical conditions and 4 million or less in surgical conditions; (2) the magnitude of a surgical procedure and/or blood loss; (3) the presence of toxemia (with borderline anemia); (4) use of transfusion as a supportive measure in conjunction with other factors; and (5) the duration of life following transfusion in the chronically ill.

In view of the fact that it was impossible to evaluate at first hand the indications for transfusions in all patients, when a reasonable doubt existed, the transfusion was considered indicated. Of the 290 transfusions given, 241 were considered indicated, 11 were considered questionable, and 38 were thought to be not indicated (table 1). Therefore approximately 13% of the blood given in this series was not indicated according to our criteria. It is of interest that 12 transfusions were given in patients with red blood cell counts between 4.5 and 5 million. Seven transfusions were given without benefit of any blood count. It has been pointed out by Soutter and associates [3b] that, in patients with long-term require-

TABLE 2.—*Distribution of Conditions for Which Transfusions Were Given*

Medical Condition	No. of Cases	No. of Units Given
Peptic ulcer, bleeding	8	17
Laennec's cirrhosis (varices)	4	17
Leukemia	3	15
Hodgkin's disease and carcinoma	8	13
Miscellaneous	10	22
Total	33	84
Type of Surgery		
Chest and abdomen surgery	37	80
Urologic surgery	22	40
Neurosurgery	14	37
Orthopedic surgery	14	24
Plastic surgery	12	12
Ear, nose, and throat surgery	4	13
Total	103	206
Combined Totals	136	290

ments, a goal of a hemoglobin level of 14 gm. per 100 cc. in a patient with 12 gm. of hemoglobin requires from two to four additional transfusions and causes a correspondingly greater deposition of iron. This is scarcely justified by any therapeutic advantages that might be associated with the higher hemoglobin concentration and is short-lived at best and of debatable value.

Table 2 gives the distribution of transfusions among the various services and the number of transfusions given during the period covered by this study. Of the 106 patients, 33 died within six months of transfusion, 24 within three months, 15 within one month, and 8 within one week. All in the last group were in extremis or moribund at the time of transfusion.

COMPLICATIONS

Patients were followed for six months following transfusion. Six patients of the 106 in the study were lost to follow-up. In the remaining 100 patients, there were 10 definite reactions and 5 questionable ones. Three had definite evidence of serum hepatitis. Two other patients had suggestive evidence of homologus serum jaundice but there were insufficient data to warrant a definite diag-

7. Use of Blood for Transfusion, editorial note, Lancet 2: 1044 (Dec. 1) 1951.

nosis. Since 24 of our patients died of their primary disease within three months and were obviously not available for follow-up, the potential incidence of serum hepatitis is higher than our figures would indicate. Other complications were pyrogenic (three definite and two questionable), allergic and speed reactions (one definite and one questionable) and hemosiderosis (one definite). The last complication occurred in a patient who had received numerous previous transfusions for refractory anemia. It is of considerable interest that half of the reactions occurred in persons in whom blood was not indicated. Death due to a complication of the blood transfusion occurred in one patient who developed pulmonary edema 12 hours after its administration. Another patient with pulmonary edema survived.

COMMENT

It has been estimated in one series [8] that homologous serum jaundice is transmitted once in every 222 blood transfusions for an incidence of 0.45%. In another series of surgical cases [3c] there were 11 cases in a total of 1,600 over a period of one year, for an incidence of 0.68%. Our incidence of 3 in 290 transfusions, or 1%, is somewhat higher. While this series is not large enough to be conclusive, it may reflect either an increased incidence of hepatitis in the general hospital population or an increased incidence of persons who harbor the virus without clinical symptoms of the disease. If the number of transfusions in the six patients lost to follow-up and the number of transfusions given to the patients who died within six weeks are subtracted, the incidence would be distinctly higher than in the series cited, namely, 1.2%. Sawyer [9] has indicated that 6% of the population are carriers of the virus of serum hepatitis. Another explanation may relate to the blood donors now used in all cities for their blood banks. Much attention has been given to the blood type of the donor but little to the type of blood donor. Unfortunately, donors to the large city blood banks frequently represent malnourished, homeless persons who must sell their blood to live. The superficial and cursory examination given to these donors very often does not disclose many diseases from which they suffer. Many are drug addicts who, it is well known, have an increased incidence of syphilis and malaria and probably harbor the icterogenic agent in greater percentage than the general population due to the promiscuous use of hypodermic needles. Although standards have been set up for levels of hemoglobin and red blood counts for donors, cases have been authenticated of persons who go to one hospital to give blood and to another to receive it.

It is clear that the administration of blood transfusions is a procedure fraught with numerous hazards. Deaths due to acute yellow atrophy are not rare following serum hepatitis. The mortality rate for serum hepatitis has been variously estimated at between 0.2 and 10%.[10] Disabilities and diseases of greater importance than the original disease for which the transfusion was given have resulted. Of great significance is the progressive increase in the risk of sensitization to known and unknown blood factors as a result of multiple transfusions. Because of this increase, it often becomes difficult or even impossible to find compatible donors for persons who have received frequent transfusions. This consideration in itself is sufficient reason to discourage enthusiastic treatment of blood counts, hemoglobin levels, or diseases rather than of patients.

SUMMARY AND CONCLUSIONS

In a three week period, 399 units (500 cc. each) of blood were requested from the blood bank for 136 patients. Of the total number of units, 27.3% was returned, indicating that insufficient thought was devoted to the ordering of blood. Approximately 13% of the blood administered was not indicated according to objective criteria. There were 10 transfusion reactions in this series, which included homologous serum jaundice in 3 cases and pulmonary edema in 2 cases. One patient with pulmonary edema died, and another survived.

Blood transfusions are often ordered promiscuously and administered without regard to proper indications. A greater respect for the dangers of transfusion and attention to proper indications for the use of transfusions will result in fewer accidents and diseases secondary to this procedure. This would also conserve the limited supply of blood and aid in relieving over-taxed hospital budgets. Finally, the teaching of the proper use of blood transfusion to hospital staffs should be fostered more actively.

130 W. Kingsbridge Rd. (Dr. Straus).

8. Scheinberg, I. H.; Kinney, T. D., and Janeway, C. A.: Homologous Serum Jaundice; A Problem in the Operation of Blood Banks, J. A. M. A. **134**: 841 (July 5) 1947.

9. Sawyer, W. A., and others: Jaundice in Army Personnel in Western Region of the United States and Its Relation to Vaccination Against Yellow Fever, Am. J. Hyg. **40**: 35 (July) 1944.

10. DeGowin, E. L.; Hardin, R. C., and Alsever, J. B.: Blood Transfusion, Philadelphia, W. B. Saunders, 1949, p. 295.

Silent Gallstones.—The incidence of silent gallstones is unknown, but there is evidence that 60 per cent of gallstones may be quiescent or silent. The incidence of gallstones in the general population is probably between 10 and 20 per cent. With a few exceptions, cancer of the gallbladder develops only in the presence of stones. The incidence of cancer of gallbladder is about one per cent. The patient with silent gallstones can be told that, over a 10 or 20 year period, he will have about a 50 per cent chance that symptoms will develop and that he will have about one chance in five that painful and serious symptoms will develop.

Present day concepts of the treatment of silent gallstones are not entirely in agreement. The majority of surgeons and some clinicians generally favor prophylactic cholecystectomy. A significant number of surgeons and clinicians advocate a conservative policy. . . . Modern improvements in surgical, laboratory and therapeutic technics have brought the mortality for elective cholecystectomy to about one per cent. The over-all mortality, including individuals with inflammatory complications, is about three per cent.

The time honored principle of strict individualization of the problem and careful consideration of age bracket and the existence of other serious pathology applies to all patients with silent gallstones. In experienced hands, prophylactic cholecystectomy for silent gallstones carries a minimal risk, but it is an immediate risk. Conservative treatment of the silent gallstone patient carries a definitely greater risk—but it is a future risk. The attitude of the patient to his problem must be a factor in choosing the course of therapy.—Philip L. Bettler, M.D., Present Concepts of Silent Gallstones, *The Journal of the Iowa State Medical Society*, January, 1953.

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CLINICAL VALUE OF EOSINOPHIL COUNTS AND EOSINOPHIL RESPONSE TESTS

William R. Best, M.D., Robert M. Kark, M.R.C.P. (Lond.), Robert C. Muehrcke, M.D.
and
Max Samter, M.D., Chicago

The revived interest by clinicians in the eosinophilic leukocyte is the result of two circumstances. The first was the discovery that adrenocortical activity produces eosinopenia. The second was the recognition that absolute eosinophil counts were simple to do and much more accurate than differential counting of eosinophils on a stained smear of blood.

Since the 19th century, when Wharton Jones [1] first described the eosinophil and when Ehrlich [2]—as a sophomore medical student—first stained its granules red, the eosinophil has remained a beautiful but mysterious cell. Although its functions are still unknown, it is worth while at this time to review our knowledge of its behavior in health and disease; to describe in brief the usefulness and limitations of the techniques of absolute eosinophil counts; to discuss eosinophilia and eosinopenia; and to indicate the value of eosinophil counts in the clinical practice of medicine.

METHODS AND TECHNIQUE OF COUNTING EOSINOPHILS

Except for the detection of gross eosinophilia, the differential count of 100 white cells on a slide is of little value in obtaining the number of circulating eosinophils. Chamber counts should replace the differential count in the enumeration of eosinophils.

In the studies on which this report is based we used the Henneman modification [3] of the Randolph technique, which is very satisfactory. Originally Dunger's method was used, but this is technically more demanding than Randolph's technique and is not as accurate.

For scientific studies it is preferable to take blood for counts by venipuncture. In practice it is satisfactory to take blood from the ear lobe or finger tips, provided the blood flows freely after deep puncture and no squeezing is required to collect the specimen.

The modification we used of Randolph's staining fluid contains 0.1% phloxine in equal parts of propylene glycol and distilled water. This stain should be made up for storage in bulk, and before use enough stain for the day's work should be filtered into a small beaker. The blood is drawn to the 1.0 mark of a standard white blood cell pipette, and the staining fluid from the beaker is added up to the 11.0 mark, giving a 1:10 dilution. After thorough mixing, the diluted blood is introduced into four chambers (both sides) of two hemocytometers. The standard 0.9 cu. mm. Levy chamber, the larger 3.2 cu. mm. Fuchs-Rosenthal chamber, or the newly developed Speirs' chamber [4] can be used. Optimal staining of eosinophils takes at least 20 minutes. Counting can be delayed for several hours without deterioration of cells if the chambers are kept under an inverted Petri dish containing moist filter paper. The eosinophilic granules are stained a brilliant red and are seen best with a strong light. All eosinophils in the entire ruled area of each chamber are counted under low magnification. Occasionally debris, slightly stained neutrophil leukocytes, or erythrocytes may be confused with eosinophils; however, examination under high dry magnification easily permits differentiation of eosinophils. The total number of eosinophils per cubic millimeter of blood is calculated by multiplying the total number of cells counted in all four Levy chambers by 2.78. If four Fuchs-Rosenthal chambers are used, the number of cells is multiplied by 0.78; or if a Speirs' chamber is employed, by 1.25.

Simultaneous Counting of All White Blood Cells and Eosinophils.—When necessary, the total leukocyte and eosinophil count can be done simultaneously in the same chamber; the leukocytes are counted by narrowing the diaphragm on the substage condenser. This emphasizes the outlines of the less brightly stained noneosinophilic leukocytes, which are then counted in the usual manner. This technique is quite satisfactory, but, if desired, Randolph's original staining fluid that adds methylene blue to the phloxine solution can be used to color the eosinophilic granules red and all the leukocytes blue.

Intrinsic Error of Eosinophil Counts.—Assuming that the technique is perfect, the chance distribution of eosinophils in the counting chamber is a source of error in counting. We have calculated the expected degree of error, and this is indicated in the table for selected absolute eosinophil values.[5] For example, if we counted a blood specimen that actually contains exactly 100 eosinophils per cubic millimeter of blood many times, we would find (using the average of counts from four Levy chambers) that 95% of our counts would range from 65 to 135 eosinophils per cubic millimeter of blood. If we used only two chambers for each determination, accuracy would be further diminished and the 95% range of counts would be from 56 to 144 cells per cubic millimeter.

NORMAL EOSINOPHIL LEVELS

The Normal Basal Eosinophil Count.—We have studied the 8 a. m. eosinophil count under fasting conditions in 42 healthy young men with no obvious allergic disease.[6] The basal eosinophil count for each subject was taken as the mean of six determinations, and the data were analyzed by the logarithm-probit method. This analysis gives a statistical estimate of the median eosino-

From the Department of Medicine and the Allergy Unit, University of Illinois College of Medicine.

Because of space limitations the bibliographic references have been omitted from THE JOURNAL and will appear in the authors' reprints.

This study was supported in part by grants from Armour and Company, The Hematology Research Foundation, and the Asthmatic Children's Aid.

The persons studied whose adrenal glands had been removed were the patients of Drs. W. J. Baker and John Vandenburg of the Urological Service of Cook County Hospital.

Clinical Assistant in Medicine, on leave of absence, United States Army Medical Corps (Dr. Best); Professor of Medicine (Dr. Kark); Armour Research Fellow in Medicine (Dr. Muehrcke); and Associate Professor of Medicine (Dr. Samter).

phil value and the limits within which the central 95% of observations occurred. The median was found to be 179 cells per cubic millimeter of blood, and the central 95% limits were 72 and 440 eosinophils per cubic millimeter of blood. Analysis by us of the basal counts on 51 healthy subjects of both sexes reported by Rud [7] showed a median of 159 eosinophils per cubic millimeter of blood, with limits of 54 to 465 eosinophils.

We consider the limits of normal for circulating eosinophils to be from 70 to 450 eosinophils per cubic millimeter. We realize that other investigators have suggested different limits of normality for adults (usually stated as somewhere between zero and 250 eosinophils per cubic millimeter), and have discussed elsewhere [6] the peculiarities of technique and analysis that are responsible for their estimates.

Day-by-Day Variation in Eosinophil Levels.—In the subjects we tested, 8 a. m. eosinophil counts on different days fell within a characteristic range for each subject that, percentage-wise, was narrower than the range of simultaneously determined total white blood cell counts. Nonetheless, the day-to-day variation of the 8 a. m. count is appreciable, and extremely divergent results are occasionally recorded.

Intrinsic Errors of Chamber Eosinophil Counts *

True Level of Eosinophils in Sample, Cells/Mm.³	Levy Chamber (0.9/Mm.³)			Fuchs-Rosenthal Chamber (3.2/Mm.³)		Speirs Chamber (2.0/Mm.³)	
	1 Chamber	2 Chamber	4 Chamber	2 Chamber	4 Chamber	2 Chamber	4 Chamber
25	0- 58	1- 49	8- 42	12- 38	16- 34	9- 41	14- 36
50	2- 98	16- 84	26- 74	31- 69	36- 64	28- 72	33- 67
100	32- 168	51-149	65-135	73-127	79-121	66-137	75-125
200	102- 298	129-271	148-252	158-242	168-232	150-250	162-238
400	257- 543	298-502	323-477	332-468	345-455	322-478	339-461
800	578-1,022	638-962	674-926	684-916	702-898	672-928	695-905

* The range for 95% of repeated chamber counts on one sample is shown. All computations are based on the use of a single pipette with a 1: 10 dilution of blood in counting fluid.

Diurnal Fluctuations of Eosinophil Levels.—Rud [7] has demonstrated that eosinophil counts on blood from the same person taken several minutes apart may show a greater variation than can be attributed to the intrinsic errors of counting alone. In addition to this short-term fluctuation, there is a definite diurnal trend, with an average midmorning fall of about 20% below the 8 a. m. level and a night time peak about 30% above it.

CONTROL OF EOSINOPHIL LEVELS

The level of eosinophils in the circulation represents a balance between the rate of their release from the bone marrow and their removal from the blood. Like other granulocytes, they are subject to control by several physiological mechanisms that alter their number and distribution in the body. Among these mechanisms are variations of activity of the bone marrow, the regulating function of the spleen; the filtering action of the lungs; the selective retention of cells at sites of certain antigen-antibody reactions; and regulation by the adrenal medulla and cortex. In regard to the third mechanism, eosinophils are the only type of leukocytes specifically attracted by shock tissues. Moreover, although the eosinophils can phagocytize bacteria in vitro, they do not usually venture into areas of localized bacterial invasion as the neutrophilic leukocytes do.

The commonest mechanism causing an increase in circulating eosinophils in blood and tissues is an antigen-antibody reaction of the anaphylactic type. The eosinophilic response that is seen in a wide variety of clinical syndromes stems from a single fundamental fact, namely, the response of sensitized tissue to contact with sensitizing antigens. Thus from the standpoint of eosinophilia, atopic diseases, like asthma, rhinitis, and urticaria, are basically the same as the induced allergic reactions, such as periarteritis nodosa, ascaris infestation, trichinosis, tropical eosinophilia, Loeffler's syndrome, hydatid disease, and reaction to therapy with drugs. In instances of continuous exposure to antigens, e. g., parasitic infestation, a high and steady level of eosinophil cells is noted. On the other hand, fluctuating contact with antigen, which is common in seasonal allergic manifestations, produces a corresponding fluctuating eosinophilia, even during the height of exposure.

The biochemical factors that induce eosinophilia in allergic conditions are not known. Recent experiments suggest the existence of humoral eosinopenic agents. Thus, the lungs from a guinea pig dead from anaphylactic shock will induce marked transitory eosinophilia in a healthy animal, if placed in the peritoneal cavity.[8] The late George Minot [9] was the first to observe that feeding raw liver to patients with pernicious anemia causes eosinophilia. We have been able to produce eosinophilia in a uniform manner in healthy persons by feeding raw calves' or beef livers that are free of parasites.[10] The eosinophilic factor in liver is not present in raw meat (muscle) nor in livers from fetal animals. Attempts to isolate this factor have been unsuccessful. It appears, therefore, that eosinophilia can develop as a result of stimuli from antibody-antigen reactions, and possibly as a result of direct stimulation of the bone marrow.

In the main, the factors that cause eosinophilia are of exogenous origin. Eosinopenia, on the other hand, is usually the result of endogenous regulations. Our present concepts of eosinopenia revolve around the fact that circulating eosinophils decrease either when adrenal activity is increased or when adrenocortical steroids are given to patients or healthy persons. It does not matter which end of the pituitary-adrenal axis is stimulated, provided there is an increase of 17-hydroxycorticosteroids in the blood stream. Of course, increased secretion of 17-hydroxycorticosteroids occurs in a wide variety of conditions, ranging from Cushing's syndrome to an acute infectious process.

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The intimate relationship between adrenocortical activity and the eosinophil cell, today so well known to all, was first suspected by Schwartz in 1914.[11] In 1938 Dalton and Selye studied various types of stress in rats and related changes in eosinophil levels to adrenal activity.[12] Finally, five years ago Forsham and associates showed that eosinopenia invariably developed in healthy adults when the adrenal gland was stimulated by injection of potent corticotropin (ACTH).[13] This was the basis of the Thorn test described below.

The details of the activation and inactivation of the pituitary-adrenal system were developed by Cannon, Collip, C. N. H. Long, Selye, Albright, Thorn, their colleagues, and their pupils. Their studies indicate that the secretion of steroids from the adrenal gland is the direct result of activity of anterior pituitary corticotropin in the cortex of the adrenal gland. The increase in 17-hydroxycorticosteroids in the blood causes a fall in circulatory eosinophils. The greater the stimulus to the adrenal from corticotropin, the greater the fall in eosinophils. The mechanism that stimulates the pituitary to produce and release corticotropin is the center of a controversy. Many years ago Cannon and Rosenblueth showed that during fear and rage the adrenal medulla secreted epinephrine (symphathin).[14] Later, Vogt and C. N. H. Long indicated that epinephrine, released during stress, stimulated the anterior pituitary hormone to produce corticotropin.[15] On the other hand, a number of investigators believe that corticotropin released from the pituitary during psychological and physical trauma is not due to hormonal factors, but is the result of neural stimuli originating in the cortex or lower down. Despite the fact that the pathways to the pituitary gland in stress are not established, it has been suggested that the eosinopenia associated with insulin hypoglycemia and with the use of ephedrine, as well as following injection of epinephrine, may be due to increased excretion of corticotropin and release of 17-hydroxycorticosteroid into the blood.

There has been a great deal of speculation about the manner in which 17-hydroxy compounds produce eosinopenia. For example, some have thought that the eosinophils are sequestrated in the spleen, or adhere to blood vessel walls, while others claimed that they are lysed in the circulating blood or in tissues. Some of these ideas are now known to be incorrect. For example, we and others have shown that adrenocortical eosinopenia can develop in patients who have had their spleens removed.[16]

We have produced eosinopenia in vitro by incubating adrenocortical hormones with defibrinated human blood.[17] This effect of the 17-hydroxy adrenocortical compounds in the test tube is a very specific one, for closely allied steroids such as progesterone or desoxycorticosterone do not produce eosinopenia. Unfortunately, there is no simple way of proving that the in vitro activity of cortical hormones on the eosinophils is the same as what happens in the body.

While antigen-antibody union and adrenocortical hormones cause those alterations of the eosinophil level that are most commonly seen, other factors may determine the number of circulating eosinophils in the blood. For example, depression of the bone marrow, as in aplastic anemia, may cause a fall in eosinophils, while stimulation, as in polycythemia vera, can cause an increase in circulating eosinophils. The spleen also participates in the distribution of the formed elements of the blood. The exact manner in which this is accomplished is not known, but epinephrine acting on the spleen produces an instantaneous increase in all circulating white cells, including the eosinophil.

In recent years, Bierman has demonstrated that the lung is able to "filter" leukocytes as blood passes through it,[18] and the eosinophils behave like other leukocytes when they pass through the lung. We found that the absolute level in blood taken by catheter from the right heart (systemic venous blood) was always higher than their number in blood that had gone through the lung and that was collected from the brachial artery.[19] Unfortunately, arterial-venous differences in counts were statistically significant in only one-third of our experiments since the stress of catheterization caused a marked eosinopenia in the patients.

CLINICAL VALUE OF EOSINOPHIL COUNTS

When eosinophil counts in blood of patients are done, it should be recognized that, owing to physiological variations and technical errors, a single 8 a. m. eosinophil count may not be a true representation of the basal eosinophil level. In clinical practice, at least two, and preferably three or four, basal counts should be done, unless marked deviation from normal is apparent from the first determination. Eosinopenia exists when there are fewer than 70 cells per cubic millimeter, and eosinophilia when there are more than 450 cells.

Eosinophilia.—The common causes of eosinophilia include (1) diseases of sensitization, such as allergic diseases, drug reactions, serum sickness, periarteritis nodosa, parasitic infestation, tropical eosinophilia, and Loeffler's syndrome; (2) the rebound eosinophilia of infectious disease, in which eosinophilia is found during recovery from typhoid fever, scarlet fever, measles, and other infections, a phenomenon formerly regarded as a favorable prognostic sign; (3) eosinophilia associated with diseases of the blood or neoplastic disease, such as eosinophilic leukemia, familial eosinophilia (a benign recessive genetic deviation), Hodgkin's disease, or localized malignant lesions (e. g., carcinoma of the bronchus or stomach); (4) eosinophilia of unknown cause, which includes eosinophilic granuloma (Letterer-Siwe disease), Zuelzer's syndrome in children, and benign eosinophilia following the ingestion of raw liver. It should be noted that sensitization itself does not evoke eosinophilia, for an increase in circulating eosinophils in a sensitive patient only occurs after he has been reexposed to the antigen to which he is sensitive. Moreover, antigen-antibody union may occur during reexposure without any increase in circulating eosinophils. Consequently, eosinophilia is not an invariable finding in allergic patients.

For unknown reasons eosinophils are attracted from the circulating blood into those tissues in which antigen-antibody reactions take place (the so-called "shock tissues"). Thus the finding of eosinophils in tissue biopsy specimens or in secretions (sputum, nasal secretion, tears, pleural fluid, etc.) has diagnostic importance. On the other hand, in allergic patients the number of circu-

lating eosinophils at any time is the result of supply by the bone marrow and demand by the tissues. Therefore, it is quite rare to find extreme eosinophilia in atopic allergic diseases such as rhinitis or bronchial asthma. In universal sensitization (such as parasitic infestation, drug reaction, or serum sickness), in which the patient is subject to strong or continuous exposure to antigen, the level of eosinophils in the blood may be extremely high, and counts may occasionally be as great as are found in eosinophilic leukemia. In parasitic infestation pronounced eosinophilia tends to persist, while in drug reactions the abnormally high levels of eosinophils usually fall once treatment with the drug is stopped.

Investigation on allergic patients [20] indicated that inhalation of allergens, e. g., ragweed, first caused a slight decrease in eosinophils, followed by slight eosinophilia. Unfortunately, the changes in counts were so close to statistical error that it seems unlikely at present that a satisfactory eosinophil response test to inhaled, ingested, or injected allergens will be developed that will establish beyond doubt specific sensitivity in persons suspected of having an allergic disease.

Eosinopenia.—Eosinopenia is commonly found in patients (1) with endocrine disorders, such as Cushing's syndrome or acromegaly; (2) as a result of the action of hormones and drugs, such as corticotropin, adrenocortical steroids (compounds E and F), insulin, epinephrine or ephedrine; (3) during stress, such as acute infections, trauma, operations, exercise, or other "alarm" reactions (e. g., sudden exposure to cold climates); and (4) in some patients with lupus erythematosus.[21]

When eosinopenia is found in patients it may be transient or persistent. We have observed a number of persons with transient eosinopenia, but have not been able to relate the transient eosinopenia with any clinical syndrome. In many instances this change was associated with acute environmental stress (such as cardiac catheterization), but in others there was no obvious reason for the eosinopenia. Persistent eosinopenia always raises the question of overactivity of the pituitary-adrenal axis, and, when it is found, careful search should be made for evidence of Cushing's syndrome, acromegaly, and other pituitary or adrenal disturbances. In lupus erythematosus quite frequently eosinophils cannot be found in the peripheral blood. When zero eosinophil counts are observed repeatedly in the blood, the patient should be thoroughly investigated to exclude this disease.[21] We have had no experience with eosinophil counts in pancytopenia, but it is quite likely that eosinopenia might be found in this condition and in aplastic anemia.

EOSINOPENIC RESPONSE TESTS

Thorn and associates first introduced the technique of eosinophil response tests for the diagnosis of pituitary-adrenal disorders.[22] Their original recommendations have been altered on the basis of their subsequent experience. The timetable of such testing, however, has remained essentially the same.

A basal eosinophil count is obtained before breakfast. The stimulus (e. g., corticotropin) is then administered, and four hours later a second count is taken. A light breakfast is usually allowed, but care is taken not to introduce any extraneous stimuli. The degree of response is calculated as the percentage rise or fall of the four hour eosinophil count over the basal level.

Diagnosis of Addison's Disease.—The eosinopenic responses to tests with corticotropin are most valuable in the diagnosis of Addison's disease and have become part of the physician's armamentorium. While this report is based on various modifications of the Thorn test used during the past four years, the intravenous test recently devised by Thorn [23] and described below should be used to test patients since it produces the most consistent and profound eosinopenic response in healthy persons.

With the original Thorn test, 25 mg. of corticotropin was injected intramuscularly. In patients with Addison's disease there was no significant fall in eosinophils four hours after injection. In persons with healthy adrenal glands, the number of circulating eosinophils decreased by more than 50%. The intravenous test with corticotropin is carried out as follows: 1. The basal eosinophil count is obtained. 2. Over a period of four hours 50 units of corticotropin are administered in 500 cc. of 5% glucose solution. 3. The eosinophils are counted at the end of infusion and again eight hours after the test is begun. In persons with healthy adrenals there will be a 90% fall in eosinophils after the infusion is over as compared with those with Addison's disease, in whom the eosinophils will fall to less than 50% of preinjection levels.

It is worth mentioning that Schwartz maintained that patients with Addison's disease had high basal eosinophil counts.[11] Of course, it would be suspected that the disappearance of cortical hormones from the blood would allow the circulating eosinophils to increase, but in point of fact we found that our patients with untreated Addison's disease have counts that fall within the normal range. Unfortunately, basal eosinophil counts cannot be used to diagnose Addison's disease.

Eosinopenic Response Tests to Epinephrine and Ephedrine.—It is well known that transitory eosinopenia develops in animals after injection of epinephrine, and on the basis of investigation on dogs by Hume and Wittenstein,[24] Recant, Hume, Forsham, and Thorn [25] postulated that the hypothalamus, pituitary, and adrenal cortex are successively stimulated to produce epinephrine eosinopenia. They advocated a four hour eosinophil response test to epinephrine given parenterally for estimating the pituitary-adrenal functional activity in man. While the four hour response of eosinophils to epinephrine or ephedrine [26] has been used mainly in testing individual patients, it has also been used to measure pituitary-adrenal activity in various physiological states, such as infancy, old age, and following operations, and to assess groups of persons ill with different types of disease processes, such as chronic alcoholism, acute gout, and schizophrenia.

Many who have used the epinephrine test believe that an inadequate response of less than 50% fall in circulating eosinophils indicates local disease or relative dysfunction of the pituitary-adrenal system. We and others have observed greater than 50% drop of eosinophils in patients with pituitary tumors [27] and also in

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patients who have had their adrenals removed for carcinoma of the prostate and of the breast.[28] Responses of less than 50% fall were seen in a large number of patients with unrelated pathological conditions. Recent observations from two other laboratories indicate that injection of epinephrine in man does not cause a rise in blood levels of 17-hydroxycorticosteroids,[29] nor does it produce a uniformly significant increase in urinary 17-ketosteroid excretion.[30]

These observations, together with clinical and statistical analysis of 702 four hour response tests in 284 individuals, indicate that the epinephrine response test, in its present form, is not an acceptable procedure in the diagnosis of pituitary or adrenal disease, nor does it assess the functional capacity of these organs accurately. Therefore the epinephrine response test should be abandoned in clinical practice, at least until the mode of action is clarified.

THERAPY WITH CORTICOTROPIN AND CORTISONE

It has become customary in many clinics to perform serial eosinophil counts on all patients receiving therapy with cortisone or corticotropin. In the beginning this was related to the philosophy of extracting as much physiological and pathophysiological data as possible with each clinical trial of these hormones. This phase of study being over, it is well to reconsider the value of such determinations in the routine management of patients.

Corticotropin.—Serial eosinophil counts in most subjects have been found to be a ready index of adrenocortical stimulation. They are the most simple laboratory technique used for the assessment of such stimulation and usually are extremely reliable indexes of adrenal activity.

One might ask, "Is some assessment of adrenocortical response really necessary in the management of patients receiving corticotropin?" Unfortunately, the laboratory assay of activity in preparations of this substance remains relatively crude, and the products from different manufacturers or even successive lots from the same manufacturer may have appreciable differences in potency. Semiweekly to daily eosinophil counts at the onset of therapy check the potency of the preparation being given. With adequate doses of a potent corticotropin, eosinophil levels usually drop to near zero within a few days, frequently within 12 to 24 hours. Generally they are depressed to low levels throughout the period of sustained administration. We have observed a few patients in whom the number of circulating eosinophils returned to almost normal levels during therapy with fixed doses of clinically active preparations, a phenomenon that might be explained by an increase in tolerance but which needs further investigation.

A condition of corticogenic hypothyroidism has been described in which a secondary suppression of the pituitary from the high levels of circulating adrenal corticoids gives rise to hypofunction of the thyroid.[31] In such a state, relative refractoriness to corticotropin is reported. Weekly to biweekly eosinophil counts while a patient is receiving prolonged corticotropin therapy may herald this complication by a rise in eosinophils.

Occasionally allergic reactions result from the use of commercial preparations of purified adrenocorticotropic hormone, in spite of continuous administration. In these cases eosinophilia develops. This, of course, abolishes the usefulness of determining the level of circulating eosinophils as an index of adrenocortical response.

We do not recommend that eosinophil counts be the only method of controlling patients receiving this hormone. Clinical observation with attention to therapeutic response and possible undesirable side-effects are most important. Additional laboratory studies to detect changes in electrolyte or carbohydrate metabolism are also indicated and have been outlined elsewhere.

Cortisone.—The potency of cortisone being rather uniform, assessment of 17-hydroxycorticoid activity does not appear necessary in the routine management of patients receiving this hormone. In addition, the eosinophil response is often slight and not as constant as with corticotropin or hydrocortisone. In some instances, as with corticotropin, eosinophil "escape" is noted despite continued therapy with cortisone.

SUMMARY AND CONCLUSIONS

In clinical practice chamber counting of eosinophilic leukocytes should replace the inaccurate differential counting of eosinophils on a blood smear. Details of technique and their limitations are given in the body of this paper.

The normal basal (8 a. m.) circulating eosinophil cell value is from 70 to 450 cells per cubic millimeter of blood. Physiological short-term and diurnal variations in eosinophil levels occur. These may be related to pulmonary, splenic, adrenocortical, or adrenomedullary activity.

Eosinophilia may be the result of antigen-antibody reactions, of bone marrow hyperplasia, and of feeding raw liver. A humoral eosinophilic factor or factors may be the cause of eosinophilia. Eosinopenia may be the result of adrenal hyperactivity, of the suppression of hematopoiesis, and of other unknown mechanisms.

The intravenous Thorn test, using 50 units of corticotropin, is of great value in the diagnosis of Addison's disease, provided that the precautions previously mentioned are carried out.

Eosinophil response tests with epinephrine and ephedrine are of little value in the diagnosis of adrenal, hypothalamic, or pituitary disease, nor do they accurately assess the functional capacity of those organs. Their diagnostic use in clinical practice should be abandoned, at least until the mechanism of their action on eosinophils is clarified.

The eosinophil level of patients receiving therapy with corticotropin should be followed by frequent counts at the onset of therapy. Periodic counts should be made thereafter throughout the course of treatment. Routine eosinophil counts are not necessary when patients are treated with cortisone or hydrocortisone.

1853 W. Polk St. (Dr. Kark).

NEW TECHNIQUE OF HUMIDIFICATION IN PEDIATRICS

Samuel F. Ravenel, M.D., Greensboro, N. C.

The origin of the treatment with steam of certain respiratory infections in children is unknown. Like many empirical practices in medicine, it probably began as a folk remedy that has endured the stern test of time. Its obvious disadvantages are the ever-present hazard of a burn, the discomfort to patient and attendants, and its tendency to produce hyperpyrexia in a child already the subject of a febrile illness.

Two definitions are necessary to clarify the approach to humidification. Atomization is the production of large droplets at high speed by an ordinary atomizer. These impinge on the sensitive mucous membrane of the respiratory tract and produce coughing, gagging, and other disagreeable sensations. In nebulization the large droplets are baffled out, and a fine mist or smoke is produced, with particles that are nonirritating—and practically insensible—to the respiratory mucosa.

A consideration of particle size is also essential. According to Abramson [1] particles 30 μ in diameter or larger are baffled out in the trachea and go no farther; those of 10 to 30 μ reach the terminal bronchioles; those of 3 to 10 μ size stop in the alveolar ducts; while those 0.5 to 3 μ in diameter penetrate into the air sacs themselves. Particles smaller than 0.5 μ enter the air sacs, but because of their extreme lightness approximately half are expired at once.

Water may be nebulized by various methods to produce cold steam, which avoids the danger and discomfort of hot steam. Two good ways of obtaining cold steam of proper particle size are (1) by the use of a "croupette" humidity and oxygen tent (Air-Shields, Inc., Hatboro, Pa.) and (2) by the use of a DeVilbiss no. 40 nebulizer. The "croupette" humidity and oxygen tent with its aerosol nebulizer normally nebulizes distilled water and produces an excellent fog. The only disadvantages of this instrument are its cost, $150, and the fact that when used with distilled water alone its humidification, which is 100% at the jet, is diminished in the patient's lung to a much lower concentration by evaporation.

With the aid of the "croupette" tent, using distilled water, I have been able to treat fairly successfully many diseases in which bronchial obstruction due to accumulation of viscid secretions was a problem. These included such diseases as asthma, laryngitis, laryngotracheobronchitis, and bronchiolitis.

Miller, Abramson, and Ratner [2] introduced a streptomycin aerosol in the treatment of tuberculosis at the Seaview Hospital in 1948. They employed distilled water as a source of cold steam, glycerine to prevent evaporation, and a detergent, "triton WR-1339" (formerly "triton A-20"). In the course of the study a marked sputum-liquefying effect of the aerosol was observed. The solution for clinical use is designated as "alevaire" (formerly "aerosol no. 3"). The authors immediately recognized its potential value in the treatment of other pulmonary diseases characterized by viscid sputum. The solution consists of glycerine, 5%, sodium bicarbonate, 2%, and "triton WR-1339," 0.5%, in distilled water. "Triton WR-1339" is an alkylaryl polyether alcohol, one of the detergents or wetting agents. Specifically it is an oxyethylated tertiary-octylphenol-formaldehyde polymer (Rohm and Haas). It is synthetic, nonionizable, neutral, chemically stable to strong acids and alkalis, maximally water-soluble, not hydrolytic, unaffected by standing in solution or by sterilization, retains its detergency indefinitely in the tissues, and is compatible with antibiotics, buffer salts, and a wide variety of medications. It is almost unique among detergents in that it does not cause hemolysis of erythrocytes, even in great concentration.

Detergents, or wetting agents, contain two radicals: (1) a lipophilic or hydrophobic group and (2) a hydrophilic group. In an aqueous solution the hydrophilic group is aligned on the surface next to the water; the hydrophobic group is directed upward toward the overlying gas. As a result, the surface has a film that is oil-like and has a much lower surface tension than water alone. Detergents possess the valuable qualities of lowering both surface and interfacial tension, of reducing viscosity, and of liquefying secretions. In addition, the lipophilic fraction acts on fatty secretions and substances, tending to dissolve them.

The studies of Hall [3] and of Miller and Boyer [4] showed the lack of toxicity of some of the detergents as determined by experiments in vivo. The exhaustive work of Miller and Boyer demonstrated conclusively that "triton WR-1339" aerosols are completely nontoxic in concentrations 100 times greater than the strongest ever used in treating humans. These authors pointed out in a recent review [4] that a great many diseases of the lungs are caused, accompanied, or potentially complicated by the presence of excessive and/or thickened bronchopulmonary secretions. According to Miller, this common denominator (of viscid secretions) is found in such varied conditions as lung abscess, asthma, bronchiectasis, bronchiolitis, bronchopneumonia, cystic fibrosis of the pancreas, laryngotracheobronchitis, pertussis, respiratory paralysis, tuberculosis, and as an aftermath of general anesthesia, thoracic surgery, tracheotomy, inhalation of poisonous gases, and aspiration into the lungs of such materials as amniotic fluid and gastric contents. He pointed out that the principal hazard of inspissated

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Case 2 was reported by permission of John K. Wilson, M.D.

The aerosol solution ("alevaire") was supplied by J. B. Rice, M.D., director of medical research, Winthrop-Stearns, Inc., New York.

From the Pediatric Service, the Sternberger Children's Hospital, and the Newborn Services of the Piedmont Memorial, Saint Leo's, Sternberger, and Wesley Long hospitals.

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bronchopulmonary secretions is obstruction of the airway. This block may involve various portions of the respiratory tract and may produce emphysema, atelectasis, and infection. Serious pulmonary lesions may result and entail prolonged disability and necessitate heroic therapeutic measures. He stressed the importance of thinning and removing viscid secretions before airway obstruction and infection produce their sinister effects. Hall [5] in January, 1952, reported the treatment in 20 cases of various exudative respiratory infections in children with another detergent, sodium lauryl sulfate, nebulized in a "croupette" humidity and oxygen tent. Five patients with laryngotracheobronchitis, two with laryngeal diphtheria, and five with bronchiolitis appeared to be benefited by this therapy.

EXPERIMENTAL DATA

I considered it desirable to confirm, if possible, by viscosity experiments in vitro the empirical observation [2] that inhalation of "alevaire" mist resulted in the thinning of viscid secretions. Accordingly, the viscosity of saliva, of bronchiectatic pus, and of amniotic fluid was determined by repeated estimations with an Ostwald viscosimeter. "Alevaire" mist was then bubbled through the

Fig. 1.—Comparative density of aerosol fog in a "croupette" tent, using "alevaire" (left) and water (right).

three substances and the viscosity again estimated. The viscosity of these secretions was lowered by 10%, 19%, and 24% respectively. Control experiments using water vapor instead of "alevaire" produced no thinning.

Because Miller had reported the successful treatment of neonatal asphyxia with "alevaire" mist, because pulmonary hyaline membrane is so often the cause of death in the newborn, and since comparable lesions may be produced in the lungs of animals by various means,[6] it was thought advisable to perform experiments on animals in an effort to prevent the formation of or to dissolve pulmonary hyaline-like membrane. Dr. James Caulfield of the University of North Carolina produced pulmonary hyaline-like membrane in the lungs of guinea pigs by combining the method of Bruns [6d] with bilateral vagotomy. Half of a series of animals so treated were placed in a "croupette" tent with "alevaire" mist; the other half were used as controls. The results of these experiments [7] will be described elsewhere, but suffice it to say that it proved impossible to prevent or to dissolve hyaline-like membrane in the lungs of guinea pigs under these conditions. The greater density of the fog from "alevaire" over that produced with water is graphically portrayed in figure 1.

PRODUCTION OF AEROSOL MIST

Dr. J. B. Miller designed an instrument for the production of aerosol mist, which I shall designate as "Miller's device." This apparatus costs only $2.70, and at the same time produces adequate amounts of aerosol mist for the treatment of many pulmonary lesions. It also permits the use of any ordinary oxygen tent or plastic box, which even the smallest hospital usually has in the nursery. The device (fig. 2) is constructed of a DeVilbiss no. 40 nebulizer, 3 ft. (91 cm.) of rubber tubing ½ in. by 3/32 in. (1.3 cm. by 0.2 cm.), two 18 gage needles ½ in. long, a small rubber stopper that fits the side vent of the nebulizer, and a discarded screw-top solution bottle with an air filter and plastic tubing. An oxygen or air pressure line is connected to the nebulizer and a flow of 4 to 8 liters per minute maintained. (The oxygen or air must not pass through water.) The large rubber tubing that fits over the open end of the nebulizer is conducted up-hill into the plastic box or tent. The infant to be treated is placed in the prone 15 degree Trendelenburg position. The solution bottle is filled with "alevaire," and its rate of flow into the nebulizer through the upper needle is regulated by a screw clamp. The introduction of too much aerosol into the bulb of the nebulizer, with consequent drowning out of the jet, is prevented by the outflow assembly attached to the lower needle. This empties into a waste bottle. A drip rate of 10 to 20 drops per minute usually maintains an adequate fluid level in the nebulizer bulb. Drugs to be nebulized are injected into the intake tubing with a hypodermic syringe.

RESULTS

Miller has treated several hundred patients with various types of pulmonary disease by this method. Some of my local pediatric colleagues and I have observed its effects during the last year on a comparable number of children with all sorts of respiratory lesions.

Laryngitis and Laryngotracheobronchitis.—The result in treating laryngitis (75 cases) and laryngotracheobronchitis (15 cases) has been the abolition of tracheotomy in these diseases. After a relatively brief time in the humidity and oxygen tent with full-strength "alevaire" aerosol, these children invariably showed improvement, which was usually rapid and often spectacular. So regularly has this result been achieved that we no longer dread the admission of such patients. Auxiliary therapeutic and supportive measures, such as use of antibiotics, hydration, blood, and digitalis, were used as indicated. Some of us employed one of the bronchodilators, such as "aerolone" compound (a mixture of cyclopentamine hydrochloride, isopropylarterenol hydrochloride, atropine sulfate, procaine hydrochloride, and propyline glycol [Lilly]), in an attempt to relieve laryngeal or bronchial spasm.

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7. This research was aided by grants from the Southern Oxygen Company, Greensboro, N. C., and Air-Shields, Inc., Hatboro, Pa.

Asthma and Allergic Bronchopneumonia.—The results in 40 cases of severe asthma and allergic bronchopneumonia were equally good. This might have been anticipated because of the important part played by tenacious, viscid secretions in the pathogenesis of these diseases. The usual ancillary measures of hydration, bronchodilating and vasoconstricting drugs, iodides, antibiotics, and (if necessary) corticotropin (ACTH) were employed. After repeated spectacular results in asthma, one almost achieved the dangerously complacent feeling of always being able to prevent a fatality in this disease, however severe.

Bronchiolitis.—Capillary bronchitis, or bronchiolitis, even in the smallest infants and with the most extensive involvement, yielded without exception in 20 cases. The usual supportive and antibiotic therapy was, of course, employed as indicated.

Friedländer's Pneumonia and Pneumonia with Atelectasis.—Six patients suffering with Friedländer's bacillus pneumonia were treated successfully. Two were 6 weeks of age. These patients are usually dangerously ill and have unusually tenacious sputum.

There were a number of children with very extensive pneumonia who showed evidences of block in a main bronchus with a completely silent lobe or lung. The rapidity with which the block in the bronchus disappeared was amazing.

After Bronchoscopy or Tracheotomy.—A number of small children subjected to bronchoscopy, in whom extensive trauma to the larynx entailed the probability of laryngeal edema, were treated with aerosol with perfect results. Tracheotomy was not necessary.

During the past year every child subjected to tracheotomy, for any reason, was placed in the aerosol for a day or two after operation. Convalescence was regularly smooth and uneventful. Blocking of the tube with viscid secretions did not occur.

Poliomyelitis.—Use of the aerosol was helpful in children with respiratory or bulbar paralysis due to poliomyelitis. These patients are placed in a "croupette" tent with "alevaire" mist during the time of their respiratory difficulty. The impression was obtained that this procedure is a valuable adjuvant in their treatment. Wooden frames were constructed in order to bring the tent over the heads of those confined in tank lungs. The manufacturer furnished us with one "croupette" especially built to fit a respirator. This has been very useful.

Pertussis.—In two small infants with pertussis blocking of the respiratory passages with thick secretions caused serious difficulty. They appeared to be considerably benefited by this treatment.

Kerosene Poisoning.—Pulmonary symptoms due to the ingestion and inhalation of kerosene yielded promptly to the "alevaire" mist. Such patients are now routinely treated in a "croupette" with this solution.

Miscellaneous Conditions.—It is obvious that there are many other pulmonary conditions that might well be benefited by treatment in such an atmosphere. For instance, bronchiectasis, cystic fibrosis of the pancreas with its notoriously viscid pulmonary secretions, laryngeal diphtheria, and postoperative atelectasis. In this last lesion one may anticipate performing a medical bronchoscopy.

Neonatal Asphyxia.—It is, however, in the field of neonatal asphyxia that "alevaire" mist, cheaply manufactured by means of the instrument devised by Miller, probably plays its most valuable and dramatic role. According to Nelson,[8] there are 79,000 neonatal deaths in the United States annually; 36%, or over 28,000, of these fatalities are due to pulmonary hyaline membrane formation, to the aspiration of amniotic fluid into the lungs, or to bronchopneumonia (Arey, autopsy findings, Charity Hospital of Louisiana, New Orleans).

Five large North Carolina hospitals reported a total of 45 babies with neonatal atelectasis in 1951, of which 29 died (64% mortality). In the entire state there were

Fig. 2.—Device designed by Dr. J. B. Miller for producing aerosol mist.

321 fatalities from this disease in 1950. Heretofore, therapeutic efforts directed toward relieving these conditions have been singularly fruitless. Attempts have been made to open and maintain an airway by indirect or by laryngoscopic aspiration of the trachea, admittedly a hazardous procedure in unskilled hands. Some clinicians advocate bronchoscopic aspiration, but the consensus of conservative opinion is, I believe, opposed to this procedure as being far too dangerous. These infants have regularly been placed in oxygen, but the futility of ordinary therapeutic efforts is reflected in the mortality statistics already noted. In fact, many of us have approached the treatment of these babies with a feeling of resignation and despair.

Some of our infants with neonatal asphyxia have been helped, apparently, by the "Bloxom air-lock," a resusci-

8. Nelson, W.: Personal communication to the author.

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tating device. This complicated and expensive machine seems most useful in babies who fail to breathe because of narcosis, shock, or trauma to the central nervous system. In patients with severe atelectasis or extensive aspiration of amniotic fluid it does not appear to be so effective.

Since April, 1951, when Miller's work with neonatal asphyxia was revealed, every newborn infant encountered who had atelectasis, or breathing difficulties of any kind, has been treated with "alevaire" mist. Ordinarily the babies have been placed in a Gordon-Armstrong incubator, a small "plexiglas" oxygen box, or under a plastic canopy stretched over a metal frame, in the prone 15 degree Trendelenburg position. The mist has been produced by the instrument already described (fig. 2). Eighteen infants have been adequately treated who presented symptoms and signs of massive atelectasis or those suggestive of fluid aspiration into the lungs without atelectasis. All 18 recovered. Eight were premature and in 6 the diagnosis of atelectasis was confirmed by x-ray examination. This contrasts with a 64% mortality in 45 babies suffering with atelectasis treated by other methods in five large North Carolina hospitals. Two case reports illustrate the value of "alevaire" mist in treating this condition.

REPORT OF CASES

CASE 1.—Baby C. was born prematurely at eight months by precipitate delivery in a physician's office. He was intensely cyanosed and breathed feebly. He was transferred rapidly to the hospital, his pharynx and stomach were aspirated with a DeLee bulb, and because of feeble and ineffective respiratory movements he was placed in a "Bloxom air-lock" resuscitator. Respirations continued gasping and inefficient; there was marked retraction of the soft parts of the chest; and after six hours he appeared to be definitely worse. Accordingly, he was removed from the air-lock and placed in "alevaire" mist. At this time his heart was observed to be on the right side. Improvement was almost immediate and progressive. X-ray examination revealed an extreme degree of atelectasis with the heart pulled over to the right axilla. Within four days the lung had expanded, and the heart was in a normal position (fig. 3).

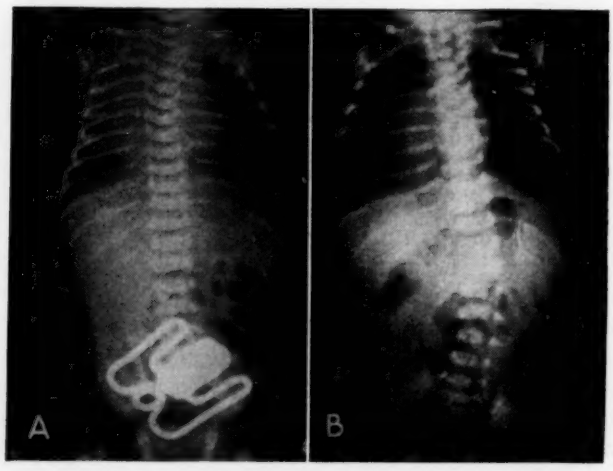

Fig. 3 (case 1).—*A*, before treatment with "alevaire." *B*, after treatment with "alevaire."

CASE 2.—Baby R. was born by cesarean section at term and had respiratory difficulty shortly after birth. He showed cyanosis, labored respirations, and retraction of the soft parts of the chest. X-ray examination revealed massive atelectasis. He was placed in oxygen, but his condition remained unchanged. After six hours he was put in "alevaire" mist and spectacular improvement ensued. Within 24 hours he appeared to be normal clinically, and the roentgenograms substantiated this impression (fig. 4).

The histories of the other infants with atelectasis are comparable. In a number of instances the baby's condition appeared to be so grave that it was impossible to make roentgenograms. Accordingly, in these the presence or absence of atelectasis could not be determined. The infants without clinical or x-ray evidence of atelectasis

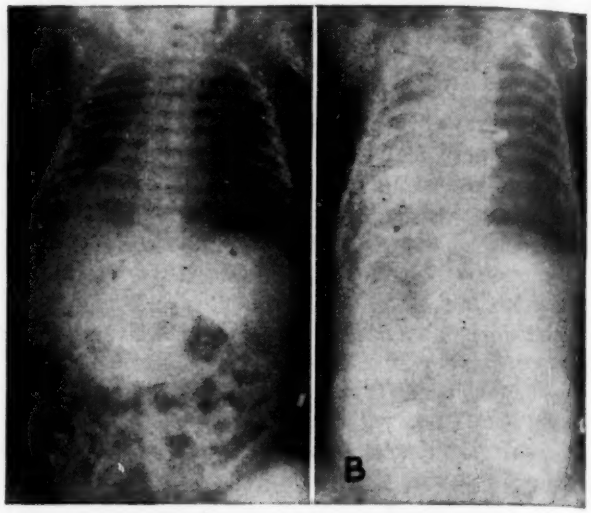

Fig. 4 (case 2).—*A*, after treatment with "alevaire." *B*, before treatment with "alevaire."

appeared to comprise a group in which there had been aspiration of amniotic fluid or of milk into the lungs with block at the alveolar or terminal bronchiolar level. In these infants respiration was difficult, labored, and sometimes gasping, and usually retraction was observed. There was invariably cyanosis, and rales were audible. "Alevaire" mist produced by Miller's device, with the infant in the prone 15 degree Trendelenburg position, produced striking and usually rapid improvement in every instance. The ordinary auxiliary measures, such as application of external heat, aspiration of amniotic fluid from the stomach in infants born by cesarean section, and the use of hydration, blood transfusions, and antibiotics when necessary, were employed.

In addition, there were four premature and 2 full-term infants who succumbed. Two of the premature infants, twin offspring of a mother with severe toxemia, showed respiratory difficulty and rales. They were placed in "alevaire" mist, did fairly well for eight hours, and then died. Autopsies revealed no trace of hyaline membrane or of atelectasis, and no evidence of fluid in the lungs or bronchi. The pathologist's diagnosis was prematurity. The third premature infant was born by cesarean section, showed respiratory difficulty and was placed in "alevaire" mist. He succumbed after 36 hours. Autopsy revealed no changes in the respiratory tract but a congenitally malformed heart with only three chambers. The fourth premature baby, born at seven months, showed cyanosis, retraction of the soft parts of the chest, defective aeration of both lungs, and x-ray evidence of bilateral atelectasis. He succumbed after two days of "alevaire" mist therapy. Autopsy revealed "marked mesenchymal hyperplasia" of the lung parenchyma with "a decrease in the number of alveoli with very thick septa between them."

The two full-term infants had breathing difficulties and symptoms and signs of congenital heart disease. Neither infant showed much improvement in pulmonary symptoms with "alevaire" therapy and died apparently of heart failure. Autopsy in one revealed a two-chambered heart with no aorta. In the other permission for autopsy was refused.

COMMENT

It is my considered opinion, after a year's experience, that this is an almost infallible weapon for combatting neonatal asphyxia due to the inhalation of amniotic fluid, with or without atelectasis. It enables one to attack this previously discouraging problem with vigor, enthusiasm, and confidence. Its effect on pulmonary hyaline membrane formation should be removed from the realm of speculation by further experiments. Additional research is in progress.

Reasoning by analogy, it seems sensible to employ this aerosol prophylactically after any obstetric complication that entails the possibility of respiratory difficulties from aspiration of fluid into the lungs or after regurgitation of milk with asphyxia. For instance, one might consider rational the treatment with "alevaire" of all premature babies, those born by cesarean section, infants with respiratory difficulties, and those who have aspirated milk into the lungs. In addition, penicillin and streptomycin should be administered for three to four days to the last two groups and to those born after a prolonged or a "dry" labor (Nelson).

SUMMARY AND CONCLUSIONS

A brief review is presented of the development of humidification in pediatrics. The composition and use of "alevaire" is described. Viscosity experiments with "alevaire" are reported. The results of treatment of various pulmonary lesions with "alevaire" mist are described and its value in neonatal atelectasis stressed. Its prophylactic use in certain situations is suggested.

"Alevaire" nebulized in a "croupette" oxygen and humidity tent or in an instrument devised by Miller has revolutionized the treatment of respiratory lesions in children. Widespread use of this simple procedure will undoubtedly save a substantial proportion of the 28,000 newborn infants who die each year in the United States from respiratory difficulties, including atelectasis.

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ADVISING RADICAL SURGERY: A PROBLEM IN MEDICAL MORALITY

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Present-day surgery for the treatment of cancer is frequently of such radical nature that unfortunate sequelae occasionally do occur. When mutilation and/or permanent incapacitation with excessive strain on family and finances can result from a therapeutic procedure, the surgeon frequently asks himself (or is asked) if such measures are morally defensible. In seeking answers to this and allied questions, a group of surgeons conferred with a group of philosophers and moralists to see if some formulation could be derived from their combined discussion.[1] This communication is the result of their efforts.

The problem was raised in connection with the operation known as pelvic exenteration, but it is by no means restricted to this particular procedure. Every year new surgical techniques are developed and physicians are confronted with the question, "Shall I advise my patient to undergo this surgery?" or, in closer reality, "How shall I present the case to the patient?"; for, as all physicians know, the manner of presentation is frequently one of the, or even the, deciding influence as to whether the patient has the procedure carried out. It is possible for two physicians of equal merit to present the same therapeutic consideration in opposing aspects, even using the same factual data. The manner of proposal can make it very difficult for the patient to accept a particular program of therapy. For example, the physician can stress the fact that the procedure is still somewhat in the experimental stage (and therefore new and relatively untried); that it is mutilating; that it is risky; that it is costly not only in money but also in human stress; that the ultimate chance of complete success is statistically small; and, in short, that the price is very great. On the other hand, the physician could make it very difficult for the patient not to accept the program by stressing the desperate nature of the patient's present condition; the fact that this program appears to be the best and probably the only means that offers any hope for a satisfactory outcome; and that, in spite of a considerable price, the possible great gains are worth it.

Should all the possibilities in every case be outlined to the patient and then the burden of decision placed on him? This solution is not only impractical but very often impossible. Such decisions require a perspective that the physician cannot often impart, even to the intelligent and emotionally well-balanced patient. Should the physician then become the personal adviser and counselor, practically making decisions for the patient? If he should become the personal adviser, according to what norms should he make this delicate decision and give this counsel involving, as it does, life and death for the patient? Having decided the scientific merit of the case, the physician must remember that his manner of presentation often will be decisive in selection of the therapy, particularly in nonstandardized situations.

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1. The problem dealt with in this paper was proposed by Dr. Victor F. Marshall and his associates of the department of urology of the New York Hospital–Cornell Medical Center. Dr. Marshall and his associates, together with Right Reverend Monsignor John M. A. Fearns of St. Joseph's Seminary, Yonkers, N. Y., and his associates, took part in the discussions that led to the present formulation.

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Pelvic exenteration, though it is only one example of a radical, new, and mutilating procedure, serves as a good starting point from which to make this discussion concrete. The treatment of cancer (not papilloma or grade 1 malignancy) of the urinary bladder is a difficult and a discouraging pursuit. The life expectancy of these patients after surgery averages about 15 years. Patients with this carcinoma untreated live an average of approximately 18 months; about 10% may survive for 5 years. In one large series of patients with vesical cancer treated during an era of enthusiasm for radiation therapy, the average length of survival was 24 months; 17% survived for 5 years, and approximately 6% still were rid of their cancer after 5 years (so-called 5 year cures).[2] With these and other considerations at hand, it seems scientifically justifiable to attempt other theoretically promising means of therapy. Among these other means is simple cystectomy. In the operation of simple cystectomy the urinary bladder is removed by following the margins of the bladder proper. Although the definitive results at the end of five years have not yet been accurately tabulated, it is probable that the five-year, successful cure rate (survival of the patient without evidence of cancer on the fifth anniversary of therapy) will be from about 10 to 15%. Already certain, however, is the fact that a high percentage of the patients having a simple cystectomy has had a local recurrence of the cancer within the bony pelvis at a time when there was no clinical evidence of disease beyond the limits of the pelvis. This has strongly suggested that a more extensive operation, one giving a wider margin of removal, would be worth while. Accordingly, two techniques were devised in which the bladder is removed by following the periphery of the pelvis rather than the margin of the bladder proper. In the so-called radical cystectomy all of the pelvic organs are removed except the rectum, and in the operation of pelvic exenteration the rectum is also removed. After pelvic exenteration the patient has bilateral openings from either kidney on the skin and, also, an opening from the bowel on the skin (colostomy). Sometimes these three openings are combined into one. The mortality from these procedures has been 16% of patients while in the hospital. It is important to note that the patient is neither outwardly nor inwardly complete anatomically and that he does suffer a really significant degree of mutilation. The final evaluation of these unusual radical procedures is not now possible, but it is evident that the lives of some patients have been shortened (at least a high percentage of those who died in the hospital following the operation). Some have had little significant change in their length of life. Prolongation of life has probably occurred in a few, even those in whom recurrences may later develop. A few others have survived, leading comparatively normal and satisfactory lives. There have been cases in which the psychological repercussions have been marked. For example, one salesman was never able to return to his work because of fears and depression that resulted from the procedure. Although he finally adjusted surprisingly satisfactorily, there was for a time a serious question as to whether he might not commit suicide.

2. Marshall, V. F.: The Comparison of Radiation and Surgery for Cancer of the Bladder, J. A. M. A. 134: 501-507 (June 7) 1947.

This whole problem was brought into sharp relief in the case of a 7-month-old girl with a heretofore fatal type of sarcoma of the bladder. In such cases, simple cystectomy had been tried, but local recurrence in the pelvis had been the outcome. At the present state of knowledge, pelvic exenteration would seem to be the most likely procedure to rid the infant of cancer, although it had not actually been carried out before on an infant with this disease. Could one morally undertake pelvic exenteration on a child of this age? And if it was morally permissible, how should one present in all fairness the case to the parents? It might be strongly pointed out to the family that this demanding procedure would be the child's only chance for survival. Or, it might be presented to the family as a hopeless situation in which an experimental, untried, and mutilating procedure might be carried out if they, realizing that the chance for success was at best quite small, wished. In the first instance, it would be difficult for the family to turn down the operation, but, in the second instance, they could have done so very easily. It is well known that hard cases make bad law, and, accordingly, in trying to arrive at norms for guiding the physician, the extreme case of the baby girl or occasional examples of unfortunate psychological accidents should not monopolize our attention. Rather, the over-all picture must be considered. Since the physician must play the role of counselor in practice, he is in need of norms for his guidance. This is particularly so because often there seem to be conflicting values involved in cases of this type, all of which deserve some consideration. The primary consideration, of course, is the patient's own good. What is the value to the patient of prolonging his life? Should the physician also consider the effect of prolonging the patient's life on the family? What is the relative position of the possible advancement of medical science? How important economically and socially is the value of the patient's life? With what degree of comfort or discomfort may he survive? Should the physician make misfortune live? These and similar considerations influence the practical advice of the physician.

GENERAL PRINCIPLES

In this article an attempt will be made to set forth certain general principles and then, by applying these principles, to offer certain practical considerations that may serve as helps or signposts to the physician in weighing the case at hand and that may guide him in the manner of presentation of the therapeutic program to his patient. It is understood that the scientific merits of the case are considered first and the decisions are made, but, in the unusual cases, there are, in addition, special moral considerations that need to be faced. The physician cannot escape the moral and spiritual implications of the situation in which he finds himself. As a responsible human being, he is faced, like everyone else, with moral decisions, and, as a physician who has undertaken to advise as well as to treat a patient whose life is at stake, the moral and spiritual implications become increasingly important to him. By careful deliberation on the principles outlined, the physician may protect himself against being led by self-interest or interest in scientific advance at the expense of the patient's personal interests.

THE PATIENT'S INTERESTS

There can be no doubt that the physician's first thought must be the best personal welfare of his patient. This point of view is inherent in his Hippocratic Oath, the classic tradition of the medical profession, and in the ethical code of the American Medical Association; furthermore, there is a contractual relationship (at least implied) that arises whenever a physician undertakes to care for a patient. This agreement is in essence that the physician will do his best for this patient. It is also legally binding. The patient comes to the physician in the faith that the physician will do the best that he can for him. Accordingly, decisions must be made primarily from the patient's standpoint. Other persons and other values have a distinctly secondary role. In this doctor-patient relationship, the physician's responsibility to the family, to the patient's employer, to science generally, to the hospital, and to society are secondary. These secondary responsibilities are real, and they deserve to be considered in their proper sphere, but they must not be allowed to outweigh the primary consideration, which is the good of the patient himself. Even in modern times, the spectacle of medical men considering themselves as mere technicians, forgetting the reverence due to the individual, and putting their scientific skills at the service of inhuman experimentation has been witnessed. The tradition of the medical profession holds that the individual human life is precious. Indeed it is this tradition that allows the patients to put their very lives in the hands of the profession. The physician who undertakes the care of a patient is first a healer who uses his science and his techniques for the good of his patient; never the other way round.

Apart from the philosophical or religious disagreements as to the nature of God and the nature of man, when a rule is sought by which the doctor can fulfill his obligation to the welfare of this patient, no better one has ever been found than the Golden Rule, "Do unto others as you would have others do unto you." However, as good as it is, this general rule does not solve all the problems. One cannot say what he would do if he were in another man's shoes because he can never really be in those shoes. Striving for this ideal will, however, avoid many of the pitfalls that self-interest prepares for everyone. And so, in the moral consideration of advising radical surgery, the best personal interests of the patient are foremost. When the physician is at the bedside of the patient he is not a mere technician or practitioner of objective medicine; he is a healer who has become a counselor to the patient and even to the patient's family. In this dual role of healer-counselor the Golden Rule is the fundamental guide.

ORDINARY AND EXTRAORDINARY MEANS

It is necessary to say something about the use of the terms extraordinary and ordinary as applied to means of preserving life. These terms may mean different things to the theologian than to the physician. Possibly some procedures that are considered ordinary by a physician might be classed as extraordinary by the theologian, at least in terms of any obligation that the patient might have to make use of them.

According to the theologian, man is not merely forbidden to destroy his life and health, he is also obliged to take positive means to preserve and to care for it. The theologian believes that man is not the absolute master of himself nor of his life and health, and, therefore, is not to do with them as he pleases; he is a steward of these gifts entrusted to him by God. But, since it would be absurd to suppose that man is obliged to take every conceivable means for even the most minute prolongation, this positive obligation to preserve life and health is formulated as follows: Man is obliged to use at least ordinary means to care for his life and health. Ordinary means of care include such natural things as food, drink, and rest. When the term is applied to remedies for sick persons, the following tentative definitions have been formulated: " 'Ordinary' means are all medicines, treatments, and operations which offer a reasonable hope of benefit and which can be obtained and used without excessive expense, pain or other inconvenience. 'Extraordinary' means are all medicines, treatments and operations which cannot be obtained or used without excessive expense, pain, or other inconveniences, or which, if used, would not offer a reasonable hope of benefit."[3]

To the physician ordinary signifies standard, recognized, orthodox, or established medicines or procedures of that time period, at that level of medical practice, and within the limits of availability. Extraordinary signifies, from the physician's standpoint, a medicament or procedure that might be fanciful, bizarre, experimental, incompletely established, unorthodox, or not recognized. Ordinary and extraordinary measures may, in the light of final knowledge, be good or bad. The ordinary means are more likely to be good, since, by definition, they have been highly selected, tried, and established on many occasions. Yet, they are not invariably worth while. In the same manner, it does not follow that extraordinary means are bad. In fact, it is possible that some are actually better than those currently included in the ordinary procedures.

The patient is obligated to make use of ordinary means (in the theological sense), but it is clear from the above definitions how relative the situation might be in a given case. For example, much may depend on the patient's subjective feelings with regard to pain, expense, and the stress involved. The physician is obligated to use these ordinary means for his patient, but, in addition, he is often obliged to go further and to use extraordinary means (in the theological sense), for instance, in the case in which the patient chooses to use the extraordinary means or may be reasonably presumed to want them. The patient is at liberty to use extraordinary means if they can be obtained and if he is willing to undergo the unusual stresses and strains involved, particularly if there is reasonable hope of benefit. The physician's contract with the patient requires that he fulfill the patient's reasonable wishes, or presumed reasonable wishes, in this regard. The physician's obligation to preserve life is thereby broader and more exacting in many cases than it would seem at first thought, for it is sometimes broader than that of the patient himself. Actually the physician takes these measures as a matter of course, both because

3. Kelly, G., S.J.: The Duty to Preserve Life, Theological Studies 12: 550 (Dec.) 1951. See also Kelly, G., S.J.: The Duty of Using Artificial Means to Preserve Life, ibid. 11: 203 (June) 1950.

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of this contractual relation with the patient and because of the high standards set by the profession that require it. This is the basis for the earlier remark that many procedures that might be considered ordinary by the physician could be considered extraordinary by the theologian in reference to the patient's obligation to use them.

The distinction between ordinary and extraordinary means of preserving health is important from several standpoints; first, medical science is providing ever more numerous techniques for the preservation of life and health. Second, means that once were extraordinary gradually have become, through extensive usage, ordinary in the medical sense and even in the theological sense. Third, the proportion of elderly persons in the population is steadily increasing. Fourth, the distinction has some bearing on the furor about euthanasia. Even the physician who conscientiously rejects euthanasia, the direct killing of a patient, must still ask himself, "How much am I obligated to do to keep this patient alive?" The prestige of medicine and the confidence of the public in the medical profession could be seriously undermined if this last question were debated, as it has been, in the reverse form, "Shall we let the old folks die?"

The present discussion is not concerned with accurately delimiting extraordinary from ordinary means. The field of discussion is more limited. Radical surgical procedures that are under advisement here are intended to result in benefit and are thought to contain promise of reasonable success. These radical procedures (using pelvic exenteration as a leading example) are new and incompletely evaluated. At this time they are obviously extraordinary procedures from the viewpoint of the patient, the theologian, and the medical practitioner alike. Nor are we here concerned with extraordinary procedures that have no reasonable basis in theory, experience, or limited practice, which, like wanton operations just to see the result, are not morally justified. An extraordinary procedure, however, is not bad solely because it has never been actually tried. Indeed, improvements in patients' care and advancement in science require that new procedures be carried out. These new techniques should be thought out and based on the soundest available actual data. The distinction here is between a technique that is merely experimental and one that is still in the experimental stage though offering the patient a well-founded hope and the best hope there is according to the physician's scientific judgment.

As stated before, the patient has no obligation to undergo such extraordinary procedures, but, generally speaking, the physician who conscientiously believes that a given technique of this type really has something to offer should let the patient know that such a technique or procedure is available. The fact that the procedure is mutilating does not of itself affect this conclusion. To sacrifice a part, even a large part, for the survival of the whole is a reasonable exercise of stewardship. Many patients prefer to live with a mutilated body than to die whole. Pelvic exenteration, for example, is not an improper procedure merely because it is mutilating. It is a risky procedure done in an already very risky situation. If the physician thinks there is a reasonable probability that it would offer this particular patient the best hope of prolonging life, the patient is entitled to know about it.

The situation is different if the physician believes to the best of his knowledge and ability that such an operation does not offer a reasonable probability of benefit or even that it is the second best procedure. It does not seem that the physician is obligated to apprise the patient that such a program is possibly available, at least until such time as the first choice has become unavailable. As mentioned earlier, it is impractical and usually impossible to outline all the probabilities and possibilities to the patient, and so the physician would sometimes be justified, in the instance of an experimental technique like pelvic exenteration, in not mentioning this approach to the problem if he felt that the patient, everything considered, would definitely be better off without it. Speaking generally, however, it is only after giving the patient or his representative the broad facts of the case that the physician should take it upon himself to influence the patient's decision or even to make the decision for him.

THE PHYSICIAN AS COUNSELOR

The physician as counselor is thus the crux of our problem. What norms can be proposed to guide the physician when he finds himself in a situation in which his advice is likely to be the determining element? What factors must he weigh? And what is their relative importance? Realizing that his first obligation is to the best interests of the patient as an individual, he must sincerely try to divorce his planning from his personal emotions, personal self-interest, and personal preferences. Among the physician's limitations would be the tendency to rationalize these preferences. The physician does know that in all such cases treatment is, at best, a postponement of inevitable death. How much of a price should be paid or should the patient be expected to pay for the postponement of the inevitable?

At this point, the physician becomes the counselor and adviser of his patient and sometimes of the patient's family. This is not as much a problem of choosing between what is morally good and what is morally evil as it is of deciding what is wiser, or better, or more prudent, all things considered. In some ways, he is like a man who is asked, "Shall I go on a dangerous expedition to the North Pole, or on the raft Kon-Tiki, where life and death are also at stake?" Perhaps not every physician has the gifts of wisdom and prudence in practical affairs that enable him to play the role of counselor, at least not alone. Perhaps he will want to consult others.

It is of utmost importance for a physician-counselor to realize that he cannot be a good personal and confidential adviser representing the patient's best interests if his own allegiance is divided between the patient's good and the general good of medical science or the welfare of the race at large. If he is going to keep in the forepart of his mind the advancement of science while also advising the individual patient as to his own welfare, the physician may get into a position like that of a legal counselor who tries to represent at the same time parties with adverse interests. Advancement of science and the best interests of the individual are often the same, but they can be opposed to one another. There is no question here of the gross disregard for the patient's interest that would make him a mere guinea pig in the cause of science, but, rather, there is emphasis on the fact that human nature, being

what it is, does not permit one to be a really good, disinterested adviser if one is to play simultaneous, inconsistent roles. Therefore, the physician who is acting as adviser in this type of case must not be guided by the abstract desirability of the research gains involved, and, if he cannot put these claims far in the background, he should decline the role of counselor, that is, personal counselor to the particular patient.

FACTORS TO BE CONSIDERED BY THE PHYSICIAN-COUNSELOR

Having decided the scientific merits of the case, what factors or elements should the physician-counselor take into consideration in order to decide what is the wiser, the more prudent course to advise his patient or his patient's representative? Indeed, what should he consider in order to decide how to present the matter to the patient, knowing that in all likelihood his manner of presentation will actually make up the patient's mind? The following list of these factors, or practical norms, is arranged very roughly in the order of their importance.

The Patient's Spiritual Well-Being.—Some physicians feel that the spiritual state of the patient is out of their professional ken; and perhaps this is true of the laboratory worker, who is never called on to assume the role of personal adviser in the doctor-patient relationship. But the physician-counselor at the bedside must answer yes to the question "Am I my brother's keeper?" This answer is inherent in the role of personal counselor for such matters. Among the best interests of the patient, the eternal questions are "Is he prepared to die?" and "Is there a chance that he would be prepared, or better prepared, if his life were prolonged?" The responsibility for the spiritual welfare of the patient devolves primarily on the patient himself and on his spiritual advisers, not on the physician, but this is a factor of primary importance to be weighed by the physician in connection with the life and death advice he is called upon to give. Other spiritual factors of an intangible kind may also be mentioned incidentally here. From the spiritual standpoint, lives can be very useful when, from the materialistic point of view, they may seem worthless. A life seemingly unimportant to society may be spiritually useful to others, and it may provide a good example of courage and of the acceptance of the trial caused by the disease and its treatment. The value of the patient to his associates as a loved and honored one and as a source of inspiration is also an intangible of the spiritual kind.

The Patient's Own Desire to Continue His Life by These Extraordinary Measures.—Since the patient has the right to resort to these extraordinary means if he wants to, the physician should respect that right by considering his known or reasonably presumed wishes in the matter. As a factor to be weighed this refers to what the well-balanced judgment of the patient would be if he were himself. Some patients who are very sick are very lucid, and, from these, the physician can get a clearer indication of their desires for prolonging existence. Other patients are depressed or not so lucid. In these cases, the physician should try to decide what the patient would want if he were himself and could think clearly.

The Expected Length of Survival and the Degree of Comfort Expected.—In very general terms, there is obviously more reason for attempting a drastic procedure when there is a chance of survival for years than there is in a case in which only a few weeks at best can be hoped for. And, on the other hand, if the patient is going to survive in great pain or other serious discomfort there is less reason for performing the operation. The word discomfort includes the physical and mental results of extensive surgical mutilation. One patient may wish to prolong his existence even at the expense of great physical pain in order to accomplish some worth-while end; while, for another patient in other circumstances, the consideration may be quite different. The mere fact of mutilation does not make the procedure wrong, but it does sometimes result in a pronounced depression and even in suicidal tendencies. The behavior may be affected. These psychological accidents should be placed low on the list of considerations, because it is nearly always difficult to foresee them with reasonable probability. They are occasioned but not foreseeably and specifically produced by the procedure. There is always a temptation to predict the mental reactions of someone else, but with how much accuracy can such predictions be made? If, in such serious matters as these, a prediction is to be considered, it should have unusual accuracy, because the adaptability of the human mind to the vast variety of life's situations has been demonstrated countless times. The patient cured of his cancer may not adjust to his mutilated state, but the probability that he will adjust is very great. The patient who is already grossly deteriorated mentally, with no hope of recovery, is another matter. This is the type of case in which the physician need not feel obligated to take extraordinary measures to make misfortune live.

The Effect of the Patient's Survival on His Associates.—The effect of prolongation of the patient's life includes such elements as stress and strain on the nerves of the family and the cost of continuous medical care. The physician should take these factors into consideration because the patient himself should. In the case of the 7-month-old baby girl previously described, these considerations become very important, since the parents would be exposed to severe strain for many long years. On the other hand, if the parents realize this prospect and have the spiritual strength to face it, the presence of a sick child in the house might turn out to be a blessing in disguise. The patient's possible spiritual value to others has already been mentioned. The material usefulness of the patient to his family would occasionally have some bearing on the physician's decision. If there were a real chance of rehabilitating him as a family wage-earner and the family were in need of that wage, the operation might be more readily advised than if these conditions did not obtain. Low on the physician's list is a consideration of the patient's value to his employer, and only rarely is the patient of such importance to society at large that this relationship needs consideration.

The Advancement of Science.—Consideration of the advancement of science is placed last and should be considered as an important reason for counseling such an operation only when the patient himself is desirous of contributing thus to science or when it is clearly evident that this value does not conflict in any way with the per-

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sonal interests of the patient. It is also to be remembered that the patient cannot transfer to the physician rights that he himself does not possess. If man is but a steward of his own life and of his bodily and mental integrity, he is not at liberty to dispose of them as an owner or to do with them as he pleases. The physician-counselor who is also a research scientist might easily deceive himself and go against the best interests of the patient if this consideration of the advancement of science were permitted any real importance except in isolated instances in which the patient is desirous of contributing thus.

CONCLUSIONS

It is not supposed that such explicit reflection on all these factors is required whenever a surgeon operates. Many operations are routine, and the decision to perform them and to recommend them needs no special weighing of delicately balanced factors. Nevertheless, a catalogue of values of this kind and a habit of mind that refers to norms of this type are useful whenever important medical decisions have to be made. Prudence is a virtue that reviews all of the values at stake and then assigns to each its proper weight. Prudence is the most valuable requisite of any counselor.

These factors, or norms, have been listed for the sake of the physician who has the particularly trying task of prudently advising when extraordinary surgical procedures are being contemplated. It is not expected that the use of these norms will lead with mathematical accuracy to the right answer. It is entirely possible and even likely that two surgeons weighing all these factors in the very same case will come to opposite opinions on the advisability of the procedure. Sometimes the reasons for and against are about equal. Sometimes, in spite of all care, it will turn out that the advice was in error. The point is that, by using these considerations as measures and tools and by weighing these values as objectively as possible, the physician-adviser will have a guide to help him stay on the right road and to do his best by his patients. If he has done so, his conscience should not bother him and he should have nothing with which to reproach himself no matter how the surgery or lack of surgery may eventually turn out. He will have lived up to the noble tradition of the medical profession and will have done his duty to God and to man. In other words, if the physician will follow these principles to the best of his ability, realizing that he cannot be infallible, he will not then be morally wrong in the advice he gives his patient.

RADIOIODINE IN TREATMENT OF ADVANCED HEART DISEASE

END RESULTS IN ONE HUNDRED PATIENTS

Henry L. Jaffe, M.D., Maurice H. Rosenfeld, M.D., Frederick W. Pobirs, M.D.
and
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The appraisal of the end results of any form of symptomatic treatment is difficult. This is especially true in evaluating cardiac drugs for the treatment of angina pectoris or congestive failure. We tried to eliminate, or at least to give consideration to, the possible psychic factors in evaluating our results, and we only rated a result good when this was a unanimous decision. In some cases we rated the result lower than the apparent result warranted, when any one of us considered that the benefit might have been on a psychogenic basis.

One hundred euthyroid patients who were chronically ill and seriously incapacitated with a variety of cardiac diseases were treated with radioactive iodine (I^{131}). The rationale of this treatment is that, by lowering the total metabolism of the body, the systemic requirements can be reduced to within the limit of the cardiac reserve.

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The improvement in cardiac symptoms associated with hypothyroidism had long been observed following the surgical treatment of hyperthyroidism. In 1933 Blumgart, Levine, and Berlin [1] first reported promising results following total thyroidectomy in a few euthyroid patients with severe cardiac disease. Blumgart and his associates [2] in 1935 summarized their results in treating 75 patients over a period of 18 months by total surgical ablation of the thyroid gland. They concluded that they had achieved beneficial results in patients who, in spite of all other available medical procedures, were still severely incapacitated. Of 50 patients with recurrent congestive failure, 48% had maintained compensation up to 18 months. There was improvement in 52% of 25 cases in which there were severe angina attacks. The operative mortality was 8%. Most of these patients required substitution thyroid extract to prevent the disturbing symptoms of myxedema. At the same meeting Levine [2] reported 30 cardiac patients on whom total surgical ablation of the thyroid was done, with good results in 50%. Means [3] reported on 11 more patients who were operated on at the Massachusetts General Hospital, with a 36% mortality. Since the results were not considered good enough to warrant the severe surgical procedure, this was discontinued at our hospital after 25 patients were treated surgically.

When the antithyroid drugs became available, these were tried to produce in a safer way the same physi-

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2. Blumgart, H. L., and others: Total Ablation of Thyroid in Angina Pectoris and Congestive Failure: Summary of Results in Treating 75 Patients During Last 18 Months, J. A. M. A. **104**: 17-26 (Jan. 5) 1935.

3. Means, J. H.: Hypothyroid Heart Disease, New England J. Med. **208**: 541-543 (March 9) 1933.

ological changes that had been attained through total thyroidectomy. Raab [4] achieved good results in 7 out of 10 patients with angina pectoris treated with thiouracil. Frisk and Lindgren [5] used methylthiouracil in seven patients with congestive failure, and reported improvement in four of this group. The toxic reactions of the drug caused discontinuance of the treatment in two patients. Eight out of nine patients with angina pectoris showed lasting improvement after three to six months of continuous methylthiouracil treatment. The occasional treacherous behavior of the thiouracil drugs is well known.

Blumgart and his associates were the pioneers in the use of radioactive iodine as a better means of lowering thyroid function in persons with severe cardiac disease. Late in 1949 Blumgart visited Los Angeles and gave us the benefit of his early experience with this method of treatment. He and his associates reported their results in the treatment of 18 patients by radioiodine in May, 1950.[6] Of 13 patients with intractable heart pain, 8 were relieved by I^{131} treatment. Three of their five patients with congestive heart failure showed improvement. These authors reported that persistent hypothyroidism could be regularly induced by one or more doses of radioactive iodine. No radiation sickness or other toxic effects were observed. Mild or transitory thyroiditis occurred in 55% of their patients, and severe thyroiditis in only one patient. Prior to this treatment, these patients were incapacitated and restricted in activities for months to years, in spite of all standard forms of therapy. Following the treatment with radioactive iodine, the smallest doses of thyroid extract were given to maintain the lowest metabolic rate consistent with the comfort of the patient.

SELECTION OF PATIENTS

Only patients with the most advanced grade of cardiac disease were accepted by us for treatment. All other forms of medical treatment had either failed or were inadequate to control symptoms of angina pectoris or congestive failure or both. Since March, 1950, 172 patients with severe cardiac disease have been treated with radioactive iodine in the radiation therapy department of Cedars of Lebanon Hospital. The first 100 patients so treated and followed for at least two years have been studied for this report. Twenty-four of these patients were referred by the Cedars of Lebanon Clinic and have been followed by us. Seventy-six patients were referred from more than 40 private physicians who cooperated with us in evaluating the end results. Many of these private patients came from our practice, so that the majority of all patients have been evaluated by us.

The average age of patients was between 50 and 60 years, although the youngest was 36 and the oldest 76 years of age. No patient with hyperthyroidism was included in this study.

PLAN OF TREATMENT

In a preliminary report [7] we published our plan of treatment with radioactive iodine. This was described as "the multiple small dose radioiodine technique," and was presented as part of the symposium on this subject.[8] The multiple small dose technique was employed for several reasons. We wanted to learn what would be the minimum effective radioiodine dose necessary to produce a hypothyroid state. We wanted to avoid the radiation thyroiditis of larger doses of radioiodine, since there is a possibility of producing a harmful temporary state of hyperthyroidism. This may result from the massive destruction of the thyroid gland and the sudden liberation of large amounts of thyroxin from the gland into the blood stream. We also wanted to effect clinical cardiac improvement by producing a state of relative hypothyroidism and still avoid the disagreeable physical state of frank myxedema. The nature of the contemplated therapy was explained to all patients and their approval obtained.

Clinical and laboratory studies included a history, physical examination, chest roentgenogram, electrocardiogram, complete blood count, urinalysis, determination of the basal metabolic rate, protein-bound blood iodine, and blood cholesterol, and radioactive iodine uptake test.[9] Some patients also had additional studies, which included determination of vital capacity, venous pressure, and the Gofman test (measuring the size of the blood cholesterol molecule).

The first course of radioiodine therapy consisted of five weekly oral doses of 6 mc. each of radioiodine (I^{131}) in 20 cc. of distilled water. No special preparation of the patient was necessary. No change was made in other medication or diet during the five weeks of treatment. A period of two months was allowed to elapse after the fifth dose, in order to get the full biological effect of the therapy. Since I^{131} has a physical half-life of 8 days, it takes about 64 days to get the full physical value of the treatment. Changes in other medication were prescribed only as the clinical condition of the patient required. The patients were observed for signs and symptoms of hypothyroidism and myxedema. Repeated blood counts were made to study the possible bone marrow effect. Repeat basal metabolism tests, blood iodine and cholesterol studies, Gofman tests, and radioiodine uptake studies were done 60 days after each complete course of I^{131} treatment.

One course of 30 mc. of radioiodine produced myxedema levels or a relative hypothyroid state in 40% of the patients. Two courses of 30 mc., or a total of 60 mc., was necessary to produce a hypothyroid state in 54% of these cases. A total of 90 mc. in three courses of treatment was given to 6% of these patients.

As hypothyroidism or myxedema developed, we frequently noted a lowered basal metabolism rate, although this test was not always a reliable index of metabolism. Many of these patients were hyperventilating because of

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208: 541-543 (March 9) 1933.

their cardiac insufficiency, and others were very nervous due to many causes. The protein-bound blood iodine level often showed depression after radioiodine therapy. However, this test also was not always a reliable index, since many patients receiving mercurial drugs showed a false low blood iodine level. The blood cholesterol levels were of diagnostic benefit in the myxedema state, since they usually were high at this time. The results of the blood cholesterol molecule size study (Gofman test) will be reported separately at a future date. The radioiodine uptake thyroid studies before and after treatment were the most accurate guide of thyroid function for this group of cases. Sometimes a lowered uptake study preceded the clinical development of myxedema by several weeks. It was noted that the radiosensitivity of the hyperthyroid gland was from 5 to 10 times greater than the normal gland. It was also observed that the normal thyroid gland may recover its function months after radioiodine treatment. Therefore, our patients were tested every two to three months throughout the period of this report for a total of 24 months. When the thyroid gland showed marked recovery this was often followed by an exacerbation of cardiac symptoms. If sufficient clinical cardiac improvement was not observed 60 days after the first course of therapy and if the patient had not yet reached an adequate hypothyroid level, then a second course of radioiodine was prescribed. This also consisted of five weekly oral doses of 6 mc. of I^{131}, followed by a two month period to allow full effect of the treatment.

A very important phase of this treatment is the clinical management of the patient by the internist after completion of radioiodine therapy. The patient must understand the theory of the treatment and should be alerted to the oncoming signs and symptoms of myxedema. At the earliest indication of myxedema after improvement in cardiac symptoms has occurred, small doses of thyroid extract should be prescribed. The earliest symptoms or signs of myxedema are vague and vary from patient to patient. They include slight sensations of swollen tongue, hoarseness, fatigue, dryness of skin, or sensitivity to cold. The eyelids may appear slightly swollen. If these early indications are overlooked, more advanced symptoms or signs are sensation of tightness and numbness of the hands and feet, sensation of swollen abdomen, changing appearance of the face, and cold skin. It is better that these more advanced symptoms and signs of myxedema should not be allowed to occur, even though thyroid extract may be given earlier than necessary. The dosage of thyroid extract must be kept at an absolute minimum in order that the patient's metabolism is not raised above low levels. Dosages of thyroid extract required have varied between 1/10 (6 mg.) and ½ grain (30 mg.), the average dose being ¼ grain (15 mg.) daily. The patient must be repeatedly warned about overactivity after relief of his distressing cardiac symptoms. Otherwise he might precipitate a fatal cardiac strain due to excessive effort during his "improved state."

The radiotherapist is charged with the safe handling of the isotope from the time that it is received from the government laboratories of the United States Atomic Energy Commission at Oak Ridge, Tenn., until it is administered to the patient. Only institutions approved by the Atomic Energy Commission may receive and administer radioactive isotopes. Special facilities for processing the radioiodine are available at certain pharmaceutical laboratories. The department of radiation therapy at our hospital has established a special laboratory for this purpose. Here the individual tracer and therapy doses are prepared by radiochemists. A health physicist is responsible for keeping the working personnel safe from radiation exposure. Special instruments are necessary for measurement of radiation intensity such as Geiger counters, scintillation counters, laboratory monitors, film badges, and pocket electroscopes.

RESULTS

The patients were classified into three groups. In the first group were those whose chief complaints were frequent attacks of angina resulting from previous episodes of either coronary thrombosis or sclerosis. In the second group were those with congestive heart failure occurring either in advanced rheumatic heart disease, hypertensive heart disease, or coronary insufficiency. Also included in this category were those patients whose chief clinical problem was the recurrence of attacks of acute pulmonary edema associated with advanced hypertensive heart disease, coronary disease, or aortic insufficiency. The third group included patients presenting both angina and congestive failure at the same time.

Observations were recorded after 24 months of study as follows: 1. Results were considered good when the patient showed marked clinical improvement as well as a marked decrease in the use of such drugs as glyceryl trinitrate (nitroglycerin) or the intramuscular injections of mercurials. 2. Results were considered fair when the patient showed moderate clinical improvement and where there was only a moderate decrease in the use of such drugs as glyceryl trinitrate and mercurial diuretics. 3. Results were considered poor when there was no clinical improvement or obvious decrease in the average dose of glyceryl trinitrate or diuretics, even though the myxedema level had been reached. Results were also considered poor in patients who died during the 24 month period, although some had had good or fair results prior to death. In no case could death be attributed to radioiodine therapy.

With problems of angina, the degree of exertion required to produce it and the amount of glyceryl trinitrate to control it are facts from which one can judge improvement. However, the problem is seldom as simple as this. There is usually a change in the way the angina is felt by the patient and also in response to glyceryl trinitrate. With problems of congestive failure, the sodium restriction and rigidity of diet, the number of mercurial injections per week, and the degree of control achieved by these measures must be evaluated prior and following treatment. With problems of acute pulmonary edema, the frequency and severity of attacks before and after treatment must be of record, along with the evaluation of such important variables as degree of activity and excitement, restriction of sodium in diet, and frequency of mercurial injections. It is difficult for physicians and patients to remember how serious or disabling the symptoms were that have been exchanged for other symptoms of lowered metabolism. The evaluation must be as factual as possible.

In the clinic group of cases there were 54% good results, 17% fair results, and 29% poor results. Six patients in this group have died. Of the 76 private patients, there were 53% good results, 21% fair results, and 26% poor results. Of these 76 patients, 18 died. The composite results show the results in 100 consecutive cases. There were 53% good results, 20% fair results, and 27% poor results. There were 24 deaths in the whole group (table 1). These have been included in the poor results classification. In the patients that died there were 33% good results and 25% fair results prior to deaths due to cardiac disease (table 2). If we included the response to treatment of the deceased patients prior to their death along with the response of the 76 living patients, the total composite end result would be as follows: 61% good, 26% fair, and 13% poor results.

In the course of recurrent examinations after radioiodine treatment, the following observations were noted. Only a few patients showed favorable electrocardiographic changes. Where paroxysmal cardiac irregularity was a predominant finding prior to treatment, we occasionally found that these arrhythmias were less frequent after treatment. The electrocardiographic changes that had been reported to be associated with myxedema were not observed in our group of patients. Repeated x-ray studies of the chest rarely showed definite alteration in size and shape of the heart. In only one patient did we observe a marked improvement in the cardiac measurements. The urinary findings showed no significant change. The basal metabolic rate study showed a definite decrease, although this test was not always accurate. The protein-bound blood iodine studies were not always accurate, because they were often falsely lowered by previous mercurial drug therapy. The blood cholesterol findings were significant when they became elevated as the severe hypothyroid and myxedma state was approached. The radioactive iodine uptake study was the most accurate index of thyroid function. According to our technique for the radioiodine uptake test, the hypothyroid range is between zero and 10%, the euthyroid uptake level is between 10 and 30%, and the hyperthyroid range is between 30 and 100%. We repeated the uptake tracer study at two month intervals following each course of radioiodine treatment in order to determine whether there was any regeneration of thyroid activity. When this occurred, it was often an important factor in our decision regarding the administration of an additional course of radioiodine for the patient. The venous pressure records often showed improvement when the congestive failure of the patient was less marked. The circulation time of the patient often showed an increase as the clinical state of myxedma was approached. The vital capacity of the patient showed a marked improvement, varying from 20 to 40% in the patients who responded favorably to radioiodine.

No untoward effect following this form of treatment has been noted. No evidence of bone marrow depression or radiation sickness has been observed with the dosage we employed. The patients rarely complained of thyroiditis with small doses of radioiodine, and when this occurred, it usually cleared up in a few weeks. We did not observe any temporary state of hyperthyroidism as a result of the destruction of thyroid tissue when the small dosage plan was used. We have tried to give 12 mc. in one dose at two week intervals in a few patients, and this caused a higher incidence of thyroiditis and temporary hyperthyroidism.

TABLE 1.—*Results of Radioiodine Therapy in Clinic and Private Patients with Various Types of Cardiac Disease*

Results	Angina	Congestive Failure	Angina and Congestive Failure	No.	%
Clinic Patients					
Good	2	5	6	13	54
Fair	1	1	2	4	17
Poor	1	0	0	1	
Patient died	0	2	4	6	29
Totals	4	8	12	24	100
Private Patients					
Good	18	12	10	40	53
Fair	8	3	5	16	21
Poor	0	1	1	2	
Patient died	2	7	9	18	26
Totals	28	23	25	76	100
Composite Results in Clinic and Private Patients					
Good	20	17	16	53	53
Fair	9	4	7	20	20
Poor	1	1	1	3	
Patient died	2	9	13	24	27
Totals	32	31	37	100	100

TABLE 2.—*Response to Radioiodine Treatment Before Death in Patients Who Died of Severe Cardiac Disease*

Results	Angina	Congestive Failure	Angina and Congestive Failure	No.	%
Good	1	2	5	8	33
Fair	1	3	2	6	25
Poor	0	4	6	10	42
Totals	2	9	13	24	100

Since this is a rather formidable treatment, it is our opinion that it should be limited to patients with severe cardiac disease who have failed to respond to all other types of medical management. We do not feel at the present time that the treatment is indicated for patients with minor cardiac complaints or for those whose conditions are well controlled by other drugs.

It appears that the average duration of life for this group of severe cardiac patients has definitely not been decreased following this treatment. In fact, there is a suggestion that these patients have lived longer than the average patient with severe heart damage. This point will have to be evaluated more carefully over a longer period of time.

SUMMARY AND CONCLUSIONS

One hundred euthyroid patients with severe cardiac disease were treated with multiple small oral doses of radioactive iodine (I^{131}) and studied over a period of 24 months after therapy. No contraindications to this treatment have been found for properly selected patients. No harmful effects have been observed. No evidence of bone marrow depression, radiation sickness, thyroiditis, or temporary hyperthyroidism has been noted with the multiple small dose technique. The average life expectancy for the entire group has not been decreased, and may actually have been increased. A longer period of observation is necessary to evaluate the longevity factor.

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Energy Commission may receive and administer radioactive as possible.

One course of 30 mc. of radioiodine will produce myxedema levels or a relative hypothyroid state in 40% of the patients. Two courses of 30 mc., or a total of 60 mc., was necessary to produce a hypothyroid state in 54% of these cases. A total of 90 mc. in three courses of treatment was given to 6% of these patients.

Of the 24 patients who died as a result of severe cardiac damage, 33% of these had good symptomatic relief, 25% had fair symptomatic relief, and 42% showed poor response. Therefore, the total end result study on a symptomatic basis shows 61% good results, 26% fair results, and 13% poor results. If the results are scored as poor in the 24 patients who died, then the end result study shows 53% good results, 20% fair results, and 27% poor results by this method of "medical thyroidectomy." Those favorably affected were relieved of the distressing cardiac symptoms of angina pectoris and congestive heart failure.

The success of this treatment requires the careful attention of the radiotherapist, who is responsible for the safe handling and the administration of the radioiodine for the uptake studies and the treatment. Of equal importance in this therapy is the careful management of the substitution thyroid medication by the internist. This is necessary to prevent the distressing symptoms of the myxedema state.

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BENIGN PROLAPSE OF GASTRIC MUCOSA

CLINICAL, ROENTGENOLOGIC, AND GASTROSCOPIC STUDY

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and
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Benign prolapse of the gastric mucosa may be defined as the detachment and loosening of redundant mucosa of the pylorus of the stomach, with herniation of these independent mucosal folds into the duodenum as a result of excessive or abnormal peristaltic action. This redundancy of the prepyloric mucosa has been described as an entity by a number of observers [1] and has been increasingly claiming the attention of clinicians in recent years.[2] Its consideration has raised a number of questions concerning its causation, clinical significance, and relationship to gastric symptoms, as well as its treatment, both medical and surgical. Certain authors [3] have stated that prolapse or extrusion of the mucosa transpylorically is a common cause of upper digestive tract distress, while others conclude that its clinical importance has been overemphasized and that it is seldom a cause of symptoms.

MATERIAL

During a period of more than three years, we have analyzed the cases of 52 patients in whom the primary diagnosis was prolapse of the redundant mucosa through the pylorus. In previous publications, few gastroscopic observations have been recorded, and the correlation between prolapse and coexisting gastrointestinal disease and other disease states has apparently been inadequately explored. This report deals with the clinical manifestations, roentgenographic criteria, gastroscopic findings, and associated disease states in this series. Thirty-seven patients in this group were studied gastroscopically on one or more occasions in the course of establishing the diagnosis and evaluating treatment. In seven cases surgical intervention was carried out when medical management was deemed ineffective, and pathological confirmation was demonstrated at the time. Hypotheses of etiological factors in this condition in which the diagnosis rests purely on x-ray observations may be warranted from the data herewith presented. These patients were seen either in private practice or on the gastrointestinal services of three large hospitals in the Los Angeles area, and this present contribution is an attempt to correlate more fully the pertinent data in this syndrome of abnormal gastric motility.

ETIOLOGICAL FACTORS

The basic mechanism for the production of benign prolapse of the antral mucosa through the pylorus was first described by Forssell.[4] He observed roentgenologically the free movement of gastrointestinal mucosa over the muscular layers as these layers contracted and relaxed. Subsequent observations, especially those of Golden [5] and more recently of Manning and Gunter,[6] confirm the fact that mucosa does slide freely over the submucosal layers of the digestive tract. Experimental studies [7] on motility of the gastric mucosa in dogs have recently borne out these clinical observations.

A number of etiological factors have been proposed as producing the ability of the antral mucosa to prolapse through the pylorus (fig. 1). Chronic irritation of the mucosa was the first hypothesis proposed by Eliason and Wright.[1a] Chronic inflammation and hypertrophy of the mucosa was another hypothesis, while hypertrophy and spasmodic contraction of the pylorus were postulated by

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Because of space limitations, some of the bibliographic references have been omitted from THE JOURNAL and will appear in the authors' reprints.

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From the Gastro-Intestinal Clinics, Cedars of Lebanon Hospital, Wadsworth General Hospital, Veterans Administration Center, and the Los Angeles County Hospital (Drs. Lichstein and Asher) and Assistant Professor of Clinical Medicine, University of Southern California School of Medicine (Dr. Lichstein).

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1e. Rees, C. E.: Prolapse of Gastric Mucosa Through Pylorus: Surgical Treatment, Surg., Gynec. & Obst. **64**: 689-694 (March) 1937.

1g. Scott, W. G.: Radiographic Diagnosis of Prolapsed Redundant Gastric Mucosa into the Duodenum, with Remarks on Clinical Significance and Treatment, Radiology **46**: 547-568 (June) 1946.

2d. Ellison, A. B. C., and Squire, E. W.: Prolapse of Gastric Mucosa into the Duodenum, West Virginia M. J. **45**: 237-239 (Sept.) 1949.

Rees.[1e] An important associated finding in previously published reports that was borne out by our own findings was the presence of a gastritic process. This fact, as well as the loss of the independent stretching mechanism as a result of an irritative process, was mentioned by Golden [5] and more recently confirmed by Manning and Highsmith.[6] Melamed [3a] listed a number of gastrointestinal diseases as well as cardiac and nutritional disturbances that he thought predisposed to prolapse. Emotional stress in persons with psychoneurotic tendencies was suggested by Scott [1g] as being associated with and manifested by the existence of prolapse. The possibility of a common etiological background for benign prolapse, peptic ulcer, and hypertrophic gastritis may be suggested from a consideration of our studies.

CLINICAL MANIFESTATIONS

The highest incidence of prolapse occurred in patients in the age group 50 through 60 years. Seventy-five per cent of the patients were in the age group 40 through 70 years. Of 45 patients in whom a history was available, 39 had symptomatic complaints. Obviously, there was a temptation to develop a characteristic symptom complex from these findings, but the history in a considerable number of cases was not clear-cut or dramatic and was, in fact, indistinguishable from that of functional indigestion. This evaluation was further complicated by the high coincidence of associated gastrointestinal disease.

The most frequent complaint encountered was that of repeated bouts of localized epigastric pain of from 48 hours to a period of days in duration, reported as occurring oftenest in the midline. This distress was associated with nausea and vomiting, was not relieved by food, and often required hypodermic medication. There was rarely any radiation of pain. This picture has been interpreted as that of pyloric obstruction and has been termed by previous observers "ball-valve syndrome." These acute cramping episodes occurred in 31% of the cases. The high incidence of hemorrhage of varying degrees of severity was striking in our series. It occurred in 22% of the patients and ranged from massive hematemesis requiring multiple transfusions and prompting surgical intervention to slight chronic oozing.

INCIDENCE OF OTHER DISEASES

A most significant observation was the finding of coexisting gastrointestinal disease states in patients with prolapsed gastric mucosa. It was noted that 38% had peptic ulcer, either duodenal or gastric. The history of 38% of the patients included cholelithiasis, perforation of the gallbladder, or cholecystectomy. In an attempt to adduce some evidence as to the correlation of symptoms and the presence or absence of associated gastric disease, the following was ascertained: As already stated, in 45 patients in whom a history was available, 6 were asymptomatic. In the 39 patients with symptomatic complaints, 35 had other gastrointestinal disturbances (inclusive of gastritis, as diagnosed gastroscopically), and 24 had an associated disease of the esophagus, stomach, or gallbladder (exclusive of gastritis). In 37 of the 52 patients in this series who were examined gastroscopically, there were 19 cases of gastritis either alone or in association with another gastrointestinal disease. In 10 patients suffering from prolapse with symptoms of hemorrhage, 2 had no associated gastrointestinal disease, 2 had peptic ulcer, and 6 had superficial or hypertrophic gastritis.

The incidence of diseases other than those of gastrointestinal tract origin in this series was tabulated. It was found that in 51% of the patients there was evidence of cardiovascular disease ranging from hypertension and arteriosclerosis to auricular fibrillation and heart block. The abundant presence of cardiovascular disease has been deemed by other observers [3b] to be of more than casual interest. Twenty nine per cent of the patients were diagnosed as having some psychiatric disturbance. Personal contact with these patients emphasized for us the factor of the functional nervous element in the syndrome. Patient historical data included the precipitation of specific acute attacks of symptoms by excessive emotional stress. The presence of free-floating anxiety and of hyperventilation was seen in a number of patients interviewed. In four alcoholics, acute symptoms were precipitated by excessive drinking.

DIAGNOSTIC ROENTGENOGRAPHIC FEATURES

At present, the diagnosis of gastric mucosal prolapse is solely a roentgenologic one. The x-ray findings are fairly well established and have been elucidated by a number of authors.[9] The essential criteria to be met may be stated thus: The defect is confined exclusively to the base of the bulb, is smooth in contour, is lobulated like an umbrella, and is "mushroom" in outline (it has recently been likened to the appearance of an atomic bomb explosion), and gastric rugae are seen passing from the antrum transpylorically into the bulb. The rugae are thickened, smooth, and flexible, and the remainder of the bulb is usually completely filled out if unassociated with a true duodenal ulcer.

The condition of prolapse is the result of a dynamic state that subsides and recurs with peristaltic activity, and the appearance of the defect is therefore changeable from one roentgenogram to the next and may even disappear entirely. There usually are changes in the pyloric canal, with an associated cuff-like appearance and increased gastric motility. The presence of many gastric rugae passing apparently unimpeded across the pylorus usually is sufficiently pathognomic, but the finding of an occasional single rugal fold producing an indentation of the base may not be considered as a full-blown prolapse.

GASTROSCOPIC FINDINGS

In all probability, the gastric mucosa is normally able to slip freely over the submucosal layers of the stomach wall. An impression of this may be gained by observing gastroscopically the antral peristaltic activity of the normal stomach. Here, the waves of peristaltic contraction

3*d*. Bralow, S. P.; Becker, G. H.; Scheinberg, S., and Necheles, H.: Prolapse of Gastric Mucosa and Its Possible Relationship with Peptic Ulcer and Upper Gastro-Intestinal Hemorrhage, Am. J. Digest. Dis. **17**: 65-69 (March) 1950.

4. Forssell, G.: Mechanism of Movement of the Mucous Membrane of the Digestive Tract, Am. J. Roentgenol. **10**: 87-104 (Feb.) 1923.

5. Golden, R.: Antral Gastritis and Spasm, J. A. M. A. **109**: 1497-1500 (Nov. 6) 1937.

6. Manning, I. H., Jr., and Gunter, J. U.: Prolapse of Redundant Gastric Mucosa Through the Pyloric Canal into the Duodenum, Am. J. Path. **26**: 57-73 (Jan.) 1950.

9*d*. Levin, E. J., and Felson, B.: Asymptomatic Gastric Mucosal Prolapse, Radiology **57**: 514-520 (Oct.) 1951.

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pass down the antrum to the pylorus like a succession of rings, to disappear into the pylorus itself. As these rings pass into the pylorus during antral systole, each ring becomes closed in a puckered fashion similar to the neck of a cloth sack pulled together by a cord. Then, as the wave disappears, the pylorus opens, permitting the view of a large, rounded opening. In the prolapse syndrome, abnormalities were observed in the mucosa of all the patients examined gastroscopically. These changes were considered of great diagnostic importance, since it is by means of the gastroscopic examination that certain of the roentgenographic findings can be more fully interpreted and that malignant disease as a cause of the prolapse may thus in most cases be ruled out.

In our series, 45 gastroscopic examinations were performed in 37 (71%) of the patients. Redundant mucosal folds were seen in 40% of the 37, hypertrophic gastritis in 34.8%, and superficial gastritis in 20%; in 9 (25.7%) the phenomenon of the prolapsing mucosa was visualized during the examination. It will be noted that although only 37 patients were examined gastroscopically, several patients had more than one examination. It should also be noted that in all examinations gastroscopic abnormalities were seen, and we should like to stress that these changes were not borderline. As mentioned, too, a true prolapse through the pylorus could be observed in nine patients. The failure to observe this in a higher percentage of the cases may be due to the fact that air inflation probably stretched the mucosa over the submucosal layers to prevent prolapse from occurring. Where prolapse was seen, the antral mucous membrane was thrown into large prominent folds that either lay parallel to the long axis of the antrum or lay across it. In one of our patients, the prolapse took the form of a giant doughnut and formed and disappeared regularly with the opening and closing of the pylorus. In another, unexpectedly, the duodenal mucosa prolapsed in a retrograde fashion through the pylorus into the antrum. Due to the visual limitations of the examining instrument, these observations were limited to the greater curvature of the antrum and to the anterior and posterior walls adjacent to the greater curvature. The folds in general were irregular, and their relative redundancy was manifested by their prominence as well as by the fact that in some cases they projected like knuckles into the lumen of the antrum. As peristaltic waves passed down the antral canal, these large folds seemed to spill through the pyloric ring, and then, as another wave came along, they reappeared at the level of the angulus.

Feldman, in a recent report,[10] stated that 46% of his patients with prolapse showed evidence of gastritis from the roentgenologic viewpoint. This is admittedly a diagnosis on a tentative basis, but we were able to establish a diagnosis of hypertrophic or superficial gastritis on the basis of gastroscopic criteria in a comparable percentage of cases. In nearly all instances the changes were oftenest hypertrophic, and the mucosa had a coarsely granular or cobblestone texture. This change was of such a degree in some of our patients examined gastroscopically as to present a pseudopolypoid appearance, and it was at times found to exist in the presence of frankly redundant folds of mucosa. These observations were limited to the antral mucosa, but in a number of cases the process was generalized.

DIFFERENTIAL DIAGNOSIS

Other lesions of the pyloroduodenal region can mimic the typical prolapse syndrome, and these must be considered. Conditions that may be confused with the syndrome are hypertrophic gastritis, pedunculated gastric polyp, prepyloric gastric carcinoma, duodenal ulcer, antral gastritis, secondary metastasis to duodenum, retained food in the duodenal bulb, pylorus roentgenographed over the spine, and congenital bands. From the roentgenographic standpoint, the two conditions that have oftenest shown changes similar to those of prolapse and are of the greatest importance in diagnosis are prolapsing gastric polyp on a long pedicle and either primary carcinoma or infiltrating carcinoma from colon or pancreas.[11] These conditions may produce the symptoms of recurrent pain and obstruction of the pylorus that are encountered in association with the prolapse syndrome. For example, one of our patients, a 68-year-old man, was admitted with symptoms of pyloric obstruction occurring in repeated attacks of 24 hours' duration. He presented all the roentgenographic criteria of prolapse of redundant mucosa. Gastroscopic examination, however, did not reveal the usual gastritic changes we had come to expect in the prolapse syndrome but did show what appeared to be an extramucosal infiltration into the posterior wall and greater curvature of the distal third of the stomach. Laparotomy confirmed the presence of carcinoma of the transverse colon invading the greater curvature as well as the duodenum and jejunum. Although this was an unusual condition, we have found a number of instances in which adenomatous polyps as well as gastric carcinoma produced this picture. It is in such a situation as this that gastroscopic examination and, if necessary, surgical exploration are indicated whenever there is any reason to doubt the presence of the clear-cut prolapse syndrome. This has been emphasized by Cove.[12]

Occasionally, true chronic hypertrophic gastritis will produce the roentgen picture of the prolapse syndrome. Here again, gastroscopic examination is of great diagnostic value; and it is especially important if surgical intervention is being considered, since pyloroplasty, which has been found to be of value in the prolapse syndrome, has no beneficial effect on gastritis. The technique employed in carrying out roentgen ray examination of the upper gastrointestinal tract may at times produce the false picture of prolapse. This may occur if the patient is so placed that the pylorus and the base of the duodenal bulb are compressed over the spine. It is entirely possible that the diagnosis of ulcer of the base of the duodenal bulb was invariably made by the roentgenologist in the past, when prolapse was in actuality present. Attention to the criteria as enumerated above will serve to help in the differential diagnosis of prolapse from duodenal ulcer.

10. Feldman, M., and Myers, P.: The Roentgen Diagnosis of Prolapse of the Gastric Mucosa into the Duodenum, Gastroenterology **20**: 90-99 (Jan.) 1952.

12. Cove, A. M., and Curphey, W. C.: Prolapse of Redundant Gastric Mucosa, Surg., Gynec. & Obst. **88**: 108-114 (Jan.) 1949.

TREATMENT

Treatment of gastric mucosal prolapse is obviously not necessary when symptoms are absent in the presence of the x-ray diagnosis. When symptoms do occur with prolapse, conservative medical management is directed toward the alleviation of the concomitant distress. In general, therapy is similar to that for peptic ulcer, both with regard to the treatment of attacks and with regard to the complications, which curiously resemble those of ulcer rather closely. Bland diets, sedation, antispasmodics, antacids, and, most recently, the use of quaternary amine derivatives and attention to emotional and psychic factors constitute the major effective measures in medical treatment.

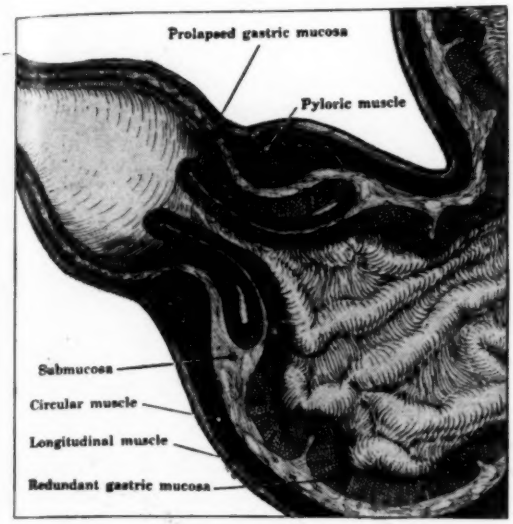

Fig. 1.—This diagram, first published by Scott,[15] clearly demonstrates anatomic relationships existing at antrum and pylorus that permit prolapse of antral mucosa through pyloric ring.

The indications for surgical intervention have resolved themselves into the same as those for ulcer: (1) intractability to conservative treatment, with persistence of pain, (2) pyloric obstruction, (3) recurrent hemorrhages, and (4) a possible prepyloric malignant growth. The surgical procedures attempted to date have been extirpation or excision of the redundant mucosa, pyloroplasty, pylorectomy, and subtotal gastrectomy. The most widely accepted surgical therapy at the present writing appears to be excision with pyloroplasty,[13] which has apparently given satisfactory results in most cases. However, recurrences of the phenomenon of prolapse are known to take place following excision. In one of our patients operated on elsewhere, there was x-ray evidence of prolapse two years later (fig. 2). In our series, seven patients were operated on and were followed up for periods of from one month to three years. In four cases the results were good; in one, recurrence took place; in another, vomiting persisted; and in still another, the result was undetermined.

SUMMARY AND CONCLUSIONS

This report is primarily intended to more fully correlate the clinical features of the syndrome of prolapse of the antral mucosa through the pyloric ring. In considering this condition, it should be remembered that anatomically it is normally possible for the antral mucosa to slide freely over its supporting layers, and this is probably the normal situation during gastroduodenal peristaltic activity. However, predisposing factors may cause entrapment of the mucosa in the base of the duodenal bulb and may thus obstruct the pylorus and produce pain, bleeding, and the symptom complex that may be clinically suggestive.

We were impressed by the relatively high incidence of neuropsychiatric stigmas in the group of patients reported. We were also struck with the high incidence of associated gastrointestinal disease: namely, duodenal ulcer, hypertrophic and superficial gastritis, and biliary tract disease. This report also stresses the importance of the gastroscopic examination in establishing the diagnosis more fully. This examination is particularly important in confirming the absence of any malignant lesion that might mimic the prolapse syndrome, and it has helped to establish the high incidence of hypertrophic gastritis present.

The criticism may be made that it is difficult to prove unequivocally that prolapse is a definite clinical entity resulting from some impairment of the normal free movement of antral mucosa over the submucosal layers and that the quantitative correlation of symptoms and associated disease in this condition may be difficult to evaluate. Putting it another way, how certain can one be that these symptoms are not due to associated gastrointestinal disease that is present in a large number of cases? These contentions surely have validity. Our purpose in this study was to compile data that may contribute to establishing the entity on a more clear-cut clinical basis. Certainly the evidence is suggestive that this entity of ab-

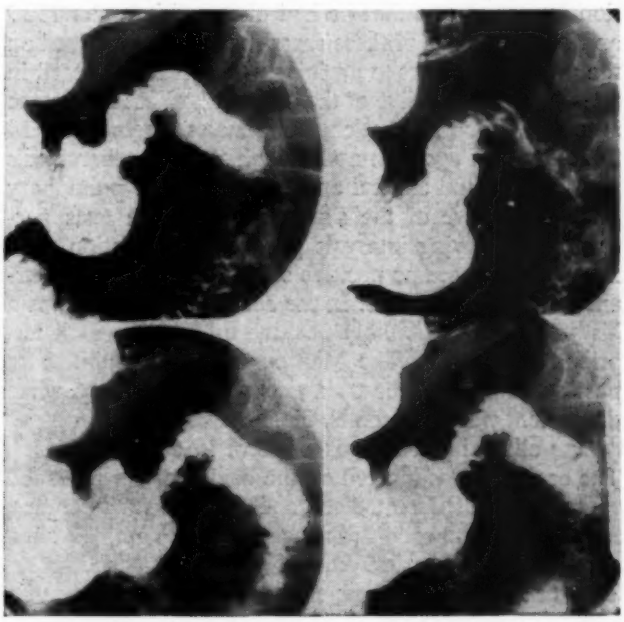

Fig. 2.—Posteroanterior views showing recurrence of antral prolapse confirmed by gastroscopy in a 50-year-old woman on whom resection of prolapsed antral mucosa was performed two years before these roentgenograms were made. She had recurrent attacks of severe midepigastric pain of two years' duration, onset usually following emotional stresses. Attacks continued after surgery.

13*b*. Moon, A. E., and Speed, T.: Prolapse of Gastric Mucosa Through Pylorus: Presentation of Case with Severe Hemorrhage, South. M. J. **42**: 839-844 (Oct.) 1949.

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normal motility of the antrum and pylorus is of not uncommon incidence and may possibly produce in the well-developed case a specific clinical entity.

ADDENDUM

Since the above was written, we have added 20 more cases to our series, the features of which would appear to corroborate the findings in the cases discussed in this report. In addition, the published reports (Shephard and Kaplan) of patients operated on have increased to 40. In personal communications with surgeons in southern California, we have gained knowledge of 10 more cases in which surgery was performed.

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CLINICAL NOTES

GRANULOMA OF SKIN WITH TUBERCLE FORMATION FOLLOWING SWIMMING POOL INJURY

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and
Samuel B. Frank, M.D., White Plains, N. Y.

Hellerström [1] reported six cases of primary inoculation lupus vulgaris that he had observed between 1939 and 1949. In each of these cases the lesions appeared on the nose subsequent to an injury (abrasion) suffered in a swimming pool. Five of the patients had used the same swimming pool. The patients were males ranging from 14 to 29 years of age with no family history of tuberculosis and with normal clinical and roentgenologic pulmonary findings. In five of the six cases tuberculin tests performed at varying intervals prior to the eruption were negative and became positive subsequent to the appearance of the skin lesions. In the sixth patient there was a history of a questionably positive tuberculin patch test prior to the injury. The Mantoux test was found to be positive in this case about six weeks after the injury, when the patient was first seen by Hellerström.

The clinical picture was uniform in all of the cases. The eruption was located on the bridge of the nose and consisted of soft, isolated and coalesced, crusted papules, reddish violet to reddish brown in color. The individual papules ranged in size from a "pinhead" to a "split-pea." Two of the patients had elevated ulcers, and papulopustules were noted in one case. On diascopic examination in each case the papules showed the distinctive color of lupus vulgaris, and they were easily penetrated with slight pressure by a dull probe. The accessible regional lymph nodes were found to be slightly to moderately enlarged in four of the cases. In one of the cases nodes were not palpable, and in the sixth case the status of the regional adenitis was not mentioned. The incubation period between the injury and the appearance of lupus nodules varied from three to six weeks.

In Hellerström's cases the histological findings were consistent with lupus vulgaris. Two sections, in one of the cases, showed a sparse number of rods that resembled tubercle bacilli morphologically and in staining behavior. Guinea pig inoculations were negative in all cases. In one of the swimming pools [2] where only one of the six patients sustained his injury, tubercle bacilli were demonstrated by inoculation of water and sediment into guinea pigs with subsequent identification of the organism in cultures. Hellerström considers his cases as primary tuberculous infections of the skin on the basis of the absence of any tuberculous focus elsewhere and of the fact that the tuberculin tests were negative prior to the injury and positive subsequent to the appearance of the skin lesions.

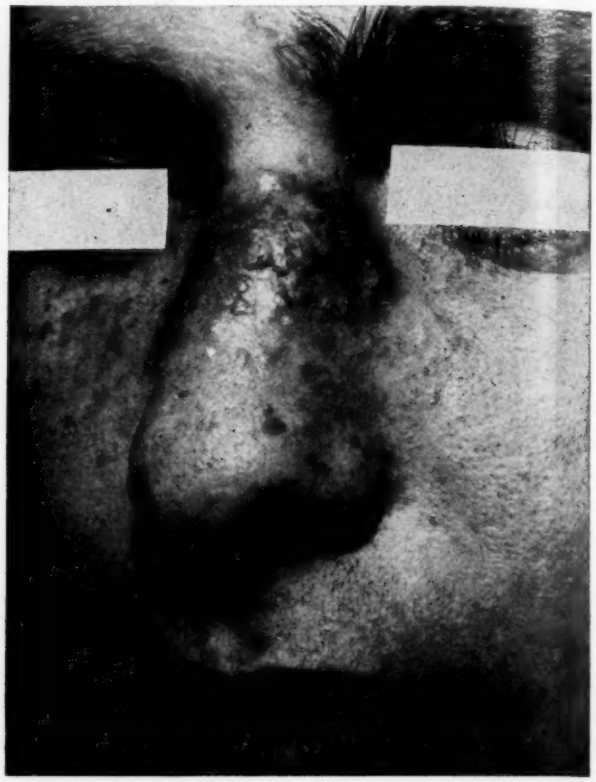

Fig. 1.—Appearance of lesion when first seen, approximately two months after the swimming pool injury.

Cleveland [3] reported four cases of granulomatous lesions of the skin that followed abrasions sustained in public swimming pools. No acid-fast bacilli were demonstrated in the lesions. Two of the patients were tested with tuberculin and had negative reactions. Cleveland considered that the lesions were possibly tuberculous in origin. He suggested the possibility of contamination of the swimming pools by persons with incipient or minimal tuberculosis of the lungs or genitourinary tract. The case reported below is an instance of a swimming pool injury that has many similarities to the cases reported by Hellerström.

From the Department of Dermatology and Syphilology of the New York University Post-Graduate Medical School (Dr. Marion B. Sulzberger, Chairman), and the Skin and Cancer Unit of the New York University Hospital.

1. Hellerström, S.: Collected Cases of Inoculation Lupus Vulgaris, Acta derm. vener. 31: 194-211, 1951.
2. Hellerström, S.: Personal communication to the author.
3. Cleveland, D. E. H.: Possible Tuberculous Skin Infection from a Swimming Pool: Report of 4 Cases, Acta derm. vener. 31: 147-152, 1951.

REPORT OF A CASE

A 19-year-old youth was seen at the skin and cancer unit of the University Hospital on June 30, 1950. He stated that on April 23, 1950, he had scraped his nose on the bottom of a swimming pool while diving. The patient further stated that the abraded lesion showed evidence of healing, but two weeks after the injury the presenting lesion developed. At about that time the patient noted the presence of a tender mass in the left side of the neck. This mass persisted for about two weeks. Examination on June 30, 1950, revealed a dull, red-brown granulomatous lesion on the bridge of the nose approximately 2.5 cm. in diameter. The margins were distinct. Diascopic examination revealed yellowish brown nodules in the lesion. The entire lesion had a definite firmness and was studded with papulopustules. There were no distinct cervical nodes noted. Examination of the rest of the skin of the body and physical examination revealed no abnormalities. Urine and serological tests for syphilis showed negative findings. The preliminary clinical impression was that the patient possibly had sarcoid, tuberculosis cutis, or granuloma of unknown origin (fig. 1).

A portion of tissue was removed on June 30, 1950, for microscopic examination. The following findings and diagnosis were reported (fig. 2 and 3). The whole of the cutis was occupied by granulomatous tissue that showed epithelioid cells and epithelioid giant cells in groups separated from each other by heavy infiltrations of small round cells. The whole mass was very edematous and showed considerable development of new vessels. The tissue was examined for tubercle bacilli. None was found. There were no silica or other crystals demonstrated by the dark field microscopic study. The diagnosis was chronic granuloma probably tuberculous. The tissue was examined with polarized light, and no doubly refractive material was found.

Tuberculin tests were done on July 10, 1950, with old tuberculin (Koch). One-tenth of a cubic centimeter of a 1:100,000 dilution given intradermally did not produce any reaction, but dilutions of 1:10,000 and 1:5,000 gave 2+ readings. Material taken on July 17, 1950, for examination for deep and superficial fungi did not reveal the presence of pathogenic mycotic organisms. On July 17, 1950, a concentrated smear for acid-fast bacilli was examined and found to be negative. Cultures (Petragnani's) taken on that date were reported as negative. Also at this time, a portion of tissue was removed and inoculated into a guinea pig, and, on Sept. 9, 1950, the result was reported negative for the presence of tubercle bacilli. Tuberculin testing was repeated on Sept. 6, 1950, and the findings were the same as those noted on July 10, 1950, with no increase in sensitivity observed. A roentgenologic examination of the chest performed on Nov. 17, 1950, revealed multiple foci of calcification in hilar regions, indicative of an old healed focus, possibly of tuberculous origin. No active tuberculosis was seen.

Fig. 2.—Granulomatous infiltrate occupying the entire cutis (low magnification, × 90).

Treatment and Course.—On July 17, 1950, daily ingestion of 150,000 units of calciferol ("davitin") was instituted. On Aug. 23, 1950, the blood calcium level had risen to 13.4 mg. per 100 cc. of blood, and this treatment was stopped. Throughout this period there was no improvement in the lesion. Promin® (disodium p,p′-sulfonyldianiline-N,N′-diglucoside disulfonate) jelly was then used locally. The patient was instructed to keep the area constantly covered with the jelly. The lesion began to undergo involution, and examination on Sept. 27, 1950, revealed only a few very superficial papules. Application of promin® jelly was discontinued, and therapy with lotio alba was started. Healing of the area continued, and inspection of the area in February, 1951, and May, 1951, revealed complete healing with a few milia present.

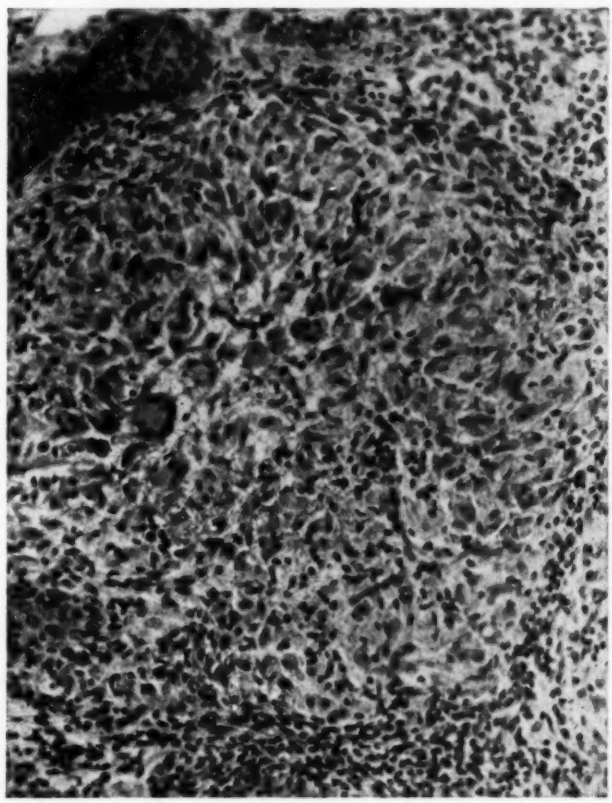

Fig. 3.—Epithelioid and giant cells (high magnification, × 165).

COMMENT

The case we observed appears to be similar in many respects to those reported by Hellerström. The type of injury, the location, the incubation period, the clinical appearance, the microscopic picture, and the results of guinea pig inoculations were similar. The difference lay in the fact that in our case there is the possibility of a prior exposure to tubercle bacilli, as indicated in the roentgenologic examination of the chest, whereas Hellerström reported normal clinical and radiological pulmonary findings in all of his cases. In addition, we had no knowledge of our patient's immunologic status prior to the injury, while Hellerström had this information. Therefore, unlike him, we were not able to demonstrate a change from a prior negative to a subsequent positive tuberculin reaction. Hellerström had a basis for believing that he was dealing with primary inoculation lupus vulgaris,

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while we, in what appears to be a similar case, were not able to prove our case was definitely tuberculous. Though we could not demonstrate tubercle bacilli in our case, the possibility of a tuberculous etiology could not be excluded. Sulzberger and Goodman [4] have pointed out that tubercle bacilli may or may not be demonstrable in tuberculosis of the skin. Although the absence of tubercle bacilli and the failure to demonstrate the specific organism by animal testing does not eliminate primary inoculation tuberculosis in our case, the roentgen evidence of healed calcified foci in the lungs is presumptive, although not necessarily conclusive, evidence that this was not the first exposure to the organism experienced by our patient. If tuberculous, therefore, this cutaneous complex may have been due to either a superinfection or a reinfection, rather than a first infection.

In regard to etiology it is interesting to point out that we were able to establish that calcium silicate and aluminum silicate were present in the interstices of the tile pieces on the floor of the swimming pool where our patient sustained his injury. The production of sarcoid-like lesions following imbedding of silica in the skin has been reported by King [5] and by Curtis and Grekin.[6] King was able to demonstrate silica crystals in granulomas due to glass cuts in four of six instances. Curtis and Grekin found crystals in one of their cases. We were unable to show the presence of crystals in the tissue from our patient. Although failure to demonstrate silica would not rule this agent out as a cause, we are not in a position to state what agent was responsible for the lesion in this case. Another interesting possibility to be considered in the causation of this condition is the smegma bacillus. This has been suggested by Baer.[7] In this connection one should note that Szymanski [8] found a tuberculoid type of response in three of eight patients whose skin was inoculated with smegma bacilli.

SUMMARY

A granuloma of the nose following a swimming pool injury is reported. In most respects it resembled the lesions reported by Hellerström as primary inoculation lupus vulgaris. The exact etiological agent was not demonstrated in the case reported here.

30 West 59th St. (Dr. Tolmach).

4. Sulzberger, M. B., and Goodman, J.: Tuberculoderms, M. Clin. North America **20**: 995-1007 (Nov.) 1936.

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7. Baer, R. L., in Year Book of Dermatology and Syphilology, edited by Sulzberger, M. B., and Baer, R. L., Chicago, Year Book Publishers, Inc., 1951, p. 332.

8. Szymanski, F., in Year Book of Dermatology and Syphilology, edited by Sulzberger, M. B., and Baer, R. L., Chicago, Year Book Publishers, Inc., 1951, p. 332-333.

Febrile Convulsions.—Febrile convulsions usually occur in the first three years of life in children with an inherited convulsive tendency. Every convulsion is a major symptom with a 71% probability of recurrence. In 74% of the children with febrile convulsions the electrogram reveals evidence suggesting an organic brain lesion. Thorough study will reveal the basic cause or diagnosis in 52% of the cases.—M. G. Peterman, M.D., Febrile Convulsions, *The Journal of Pediatrics,* November, 1952.

GOUT IN A NEGRO WOMAN

REPORT OF A CASE

Lawrence Perlman, M.D.
Arthur Bernstein, M.D.
William C. Maslow, M.D.
and
James H. Scatliff, M.D., Chicago

Gout in a Negro woman has not been previously reported. The supposed rarity of gout in the Negro race and the variously reported low incidence of gout among women make such a combination unique.

Fig. 1.—Cystic swelling over the olecranon processes of the elbows.

REPORT OF A CASE

A 50-year-old Negro woman was admitted to the Cook County Hospital on June 30, 1952, with a complaint of joint pains of seven years' duration. The initial episode of pain occurred in the right big toe and was present for one week. This pain disappeared completely for approximately one year, following which the left big toe, both knees, elbows, hands, and wrists were involved, in the order named. The episodes of joint pains became progressively more frequent and had a duration of approximately 10 days, during which time the pain was severest in the evening. Slight relief of pain was obtained with the use of acetylsalicylic acid (aspirin). During the acute episodes of pain, the joints were noted to be red and swollen. In the last two years residual deformities of the toes, hands, and elbows were noted. The family history was noncontributory; there was no history of arthritis in any members of the family. The past history was negative for any serious medical illnesses, and no surgery had been undertaken. The menopause was sudden in onset in 1948, at 46 years of age.

From the Department of Medicine, Cook County Hospital (Drs. Perlman, Bernstein and Maslow), and the University of Illinois, College of Medicine (Drs. Perlman and Bernstein).

Physical examination revealed a well-developed, well-nourished Negro woman in no acute distress. There was an elevated systolic and diastolic blood pressure (170 mm. Hg and 110 mm. Hg). The only other abnormalities were limited to the extremities. Overlying the olecranon processes of each elbow was a cystic swelling that was grating and nonpainful to touch (fig. 1). There was a spindle-shaped deformity of the right middle finger at the proximal interphalangeal joint. This joint was warm, slightly red in appearance, and painful to touch and on motion (fig. 2). The feet showed swelling and deformity of the first metatarsal phalangeal joint bilaterally; the skin over the joint was shiny, of reddish hue, and warm to touch. There was desquamation of the superficial layer of the epidermis (fig. 3). X-ray examinations of both hands, knees, and feet were made, and the only significant abnormalities noted were in the roentgenograms of the feet. There was hallux valgus deformity, cystic changes were noted at the head of both first metatarsal bones, and subluxation of the proximal metatarsal phalangeal joints of both great toes was present (fig. 4).

Laboratory examination showed hemoglobin to be 81%; red blood cells 4,320,000 per cubic millimeter; leukocytes 9,100 per cubic millimeter, with 63% polymorphonuclear cells, 4% neutrophilic bands, 1% eosinophilic leukocytes, 1% basophilic leukocytes, 27% lymphocytes, and 4% monocytes. The blood Kahn test was negative. Urinalysis was entirely negative. Blood chemical examinations were as follows:

Fig. 2.—Deformity of the right middle finger at the proximal interphalangeal joint.

	Uric Acid	Nonprotein Nitrogen
July 2	9.3	....
July 3	9.0	....
July 8	...	32.0
July 13	8.1	....
July 14	6.8	....
July 15	7.0	....
July 16	7.2	....
July 17	7.0	43.0
July 21	7.4	....

Therapy with probenecid (benemid®), 0.5 gm. per day, was begun July 11, 1952. There was a marked regression in the severity of the joint pain within 48 hours. On July 17, 1952, the dosage of probenecid was increased to 1 gm. per day, and on the following day the dosage was further increased to 1.5 gm. per day. The cystic area overlying the right olecranon was incised July 19, 1952. A small amount of cloudy white fluid was expressed. This fluid was examined microscopically, and urate crystals were noted. A solution of the crystals gave a blue color with a uric acid reagent containing lithium arsenotungstate. This finding is presumptive of uric acid. The patient was discharged July 22, 1952, at which time there was complete relief of joint pain. The deformity of the toes and of the right middle finger persisted.

COMMENT

The case presented fulfills the diagnostic criteria for gout, since podagra, hyperurecemia, subcutaneous tophi, and osseous tophi were present. The incidence of gout in women has been variously reported. Hench [1] states that classic gout may affect women, but approximately 95% of patients are men. Kinell and Haden [2] in their series of 62 cases reported three women, an incidence of 4.8%. They refer to the general incidence of gout in women as being from 2 to 3%.

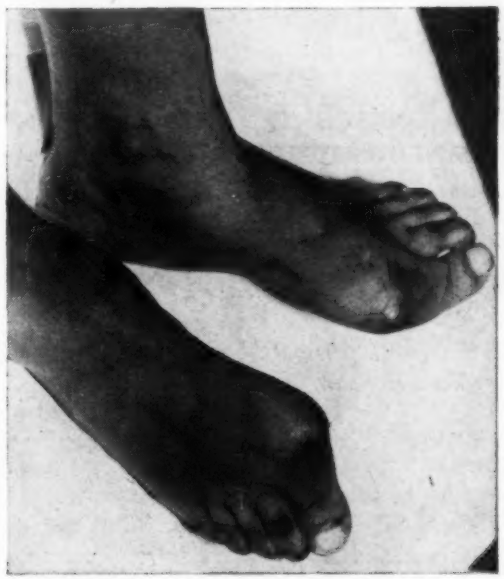

Fig. 3.—Swelling and deformity of feet and scaling of surface layer of epidermis.

Gout in the Negro race has received scant attention. Statistical studies of the incidence of gout in Negroes have not been made. Cohen [3] reported gout in three Negro brothers. Williamson [4] encountered two cases of gout in Negroes in a series of 116 patients with gout seen at Cook County Hospital. Burman [5] and Futcher [6] also reported gout in Negroes. Although the sex of the Negro with gout has not always been specifically mentioned, we assume they were all men.

Fig. 4.—Roentgenogram showing hallux valgus deformity, cystic changes at heads of both first metatarsal bones, and subluxation of proximal metatarsal phalangeal joints of both great toes.

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2. Kinell, J., and Haden, R. L.: Gout: Review of 62 Cases, M. Clin. North America **24**: 429-441 (March) 1940.
3. Cohen, A.: Gout in Negro Family, Am. J. Med. **4**: 911-915 (June) 1948.
4. Williamson, C. S.: Gout: Clinical Study of 116 Cases, J. A. M. A. **74**: 1625-1628 (June 12) 1920.

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CONCLUSIONS

A case of acute and chronic gouty arthritis in a Negro woman has been presented. No prior report of this condition in a Negro woman has been found.

25 E. Washington St. (Dr. Perlman).

5. Burman, M. S.: Synovial Fluorescence in Case of Gout with Jaundice, Acta rheumatol. 9: 10-12 (Dec.) 1937.

6. Futcher, T. B.: Etiology and Pathology of Gout, J. A. M. A. 43: 1597-1600 (Nov. 26) 1904.

USE OF UNREPORTED TREATMENT IN SPONTANEOUS PNEUMOVENTRICLE FOLLOWING TRAUMA

REPORT OF A CASE

Major Edgar Thornton Pfeil Jr. (MC), U. S. Army
and
Major Evan W. Schear (MC), U. S. A. F.,
Fort Sam Houston, Texas

A case of pneumoventricle, a form of pneumocephalus in which air filled the ventricular system, is reported because of the relatively uncommon occurrence of this condition, the difficulty encountered in its management, and its successful management by a previously unreported method. Pneumoventricle as a complication of fractures through the accessory sinuses of the skull is always cause for concern and becomes alarming when the ingress of air continues and causes an increase of the intraventricular or intracranial pressure. Although in the minds of many [1] this situation calls for immediate surgical intervention, the presence of disease or injury in another system may contraindicate such a course.

The first reported case of traumatic pneumoventricle was diagnosed and treated by Luckett [2] in 1912. In his patient roentgenogram of the skull at the time of injury revealed a fracture through the right frontal sinus without intracranial air. Seventeen days after injury the patient sneezed, and severe pain in the head and rhinorrhea developed. Roentgenograms made four days after this episode revealed air in the ventricles. In 1926, Dandy [1a] collected 25 cases of pneumocephalus from the literature and added three of his own. Only 9 of these 28 patients had air in the ventricles. Four of the nine were treated surgically, and three died. The other five were treated conservatively and two died. Dandy advocated surgical repair of the dura with a fascial graft in those cases of pneumoventricle in which increased intracranial pressure develops or cerebrospinal fluid continues to drain. Rand,[3] in 1930, collected eight cases of pneumocephalus, in five of which there was pneumoventricle. Three of the five patients were treated surgically and lived, while the two treated conservatively died. Since that time case reports have appeared in the literature, usually reporting a single case,[4] and in these the treatment has been surgical or nonsurgical following the principles advocated by Dandy. These principles, as elaborated by Brain [1c] in 1947, are as follows: 1. The patient should be kept lying flat in bed. 2. The patient should be instructed to avoid blowing his nose. 3. Saline purges should not be given. 4. Prophylactic chemotherapy should be given. 5. Surgical intervention should be employed to evacuate the air and to close the dura if serious symptoms due to the presence of air or to increased intracranial pressure develop, or if the cerebrospinal fluid leak continues.

From the Brooke Army Hospital, Brooke Army Medical Center.

1. (*a*) Dandy, W. E.: Pneumocephalus (Intracranial Pneumatocele or Aerocele), Arch. Surg. 12: 949-982, 1926. (*b*) Kaplan, A.: Traumatic Pneumocephalus with Spontaneous Ventriculograms: Report of Case, J. Neurosurg. 1: 166-170, 1944. (*c*) Brain, W. R.: Diseases of the Nervous System, ed. 3, New York, Oxford University Press, 1947, pp. 342-344.

2. Luckett, W. H.: Air in the Ventricles of the Brain Following Fracture of the Skull: Report of Case, Surg., Gynec. & Obst. 17: 237-240, 1913; Arch. Surg. 12: 949-982, 1926.

3. Rand, C. W.: Traumatic Pneumocephalus: Report of 8 Cases, Arch. Surg. 20: 935-958, 1930.

4. Stuck, R. M., and Weatherby, F. E.: Pneumocephalus, Arch. Neurol. & Psychiat. 44: 1093-1097, 1940. Flower, C. F.: Pneumocephalus: Case Report, U. S. Navy M. Bull. 39: 553-555, 1941. Gross, H. A., and Stocker, G. F.: Traumatic Pneumocephalus, ibid. 49: 113-119, 1949. Barth, E. E., and Irwin, G. E., Jr.: Traumatic Pneumocephalus, Radiology 54: 424-427, 1950. Kaplan.[1b]

REPORT OF CASE

A 58-year-old man was admitted to Brooke Army Hospital through the emergency room at 1:45 a. m., Feb. 18, an hour after falling down a flight of stairs in his home. Loss of consciousness at the time of injury could not be elicited in the history.

His past history revealed that he had been retired from the military service 10 years previously after 20 months' hospitalization for active tuberculosis of both lobes of the left lung and the upper lobe of the right lung and chronic fibrous tuberculous pleurisy on the left. Since retirement he had had a continuous nonproductive cough but had otherwise been in fairly good health.

On admission the patient was stuporous, extremely uncooperative, and under the influence of alcohol. His temperature was 99 F, pulse rate 90, respiration rate 18, and blood pressure 136/78. There were multiple contusions of the head and marked periorbital ecchymosis. The left clavicle and both wrists were found to be fractured, and multiple insignificant contusions of the body were noted. Roentgenograms confirmed the above noted fractures but skull films were not taken. Emergency laboratory examination reports showed the hemoglobin level was 13 gm. per 100 cc. (Sahli), and there were 7,600 white blood cells per cubic millimeter, with 92% neutrophils. The urine contained no sugar or albumin, the specific gravity was 1.012, and there were 5 to 6 white blood cells per high power field.

The patient was admitted to the orthopedic service and was taken immediately to the operating room, where the fracture of the right wrist was reduced and a cast applied with the patient under procaine brachial block anesthesia. The right wrist was splinted, and the patient was taken to the ward. He continued to be boisterous and disoriented, and at 12 noon neurosurgical consultation was obtained. The patient was found to be oriented in person and place when sharply questioned, but, when left undisturbed, he would quickly lapse into disorientation and hallucination. Crusts of dried blood were found in the nares and some nuchal rigidity was present, although Kernig's sign was absent. The remainder of the neurological examination was within normal limits. The impression was that there was subarachnoid hemorrhage with probable basilar skull fracture in the anterior fossa. In addition, the patient was felt to be a chronic alcoholic suffering from withdrawal symptoms. The following treatment was initiated: Ice bags were applied to the head. Paraldehyde in doses of 5 cc. was given intramuscularly every four hours when needed. He received 45 cc. of whisky every four hours when needed, 20 mg. of thiamine chloride twice daily, and 50 mg. of nicotinic acid three times daily. He was also given 300,000 units of procaine penicillin twice daily, 0.5 gm. of streptomycin every 12 hours, and 2,500 cc. of intravenous fluid daily until he was able to maintain oral intake. At 2 p. m. his pulse rate was 130, respiration rate 40, and blood pressure 160/80. He was extremely restless and hyperactive and was given an additional 10 cc. of paraldehyde intramuscularly. At 3 p. m. his temperature was 103.2 F, pulse rate 112, respiration rate 26, and blood

pressure 160/90. He then began to improve slowly and became less restless. By the following morning his temperature was 101.4 F, pulse rate 120, respiration rate 26, and blood pressure 130/88. By 4 p. m., though still disoriented, he was taking fluids by mouth and five hours later requested a urinal, voided, and seemed partially oriented. By Feb. 21 he was well oriented,

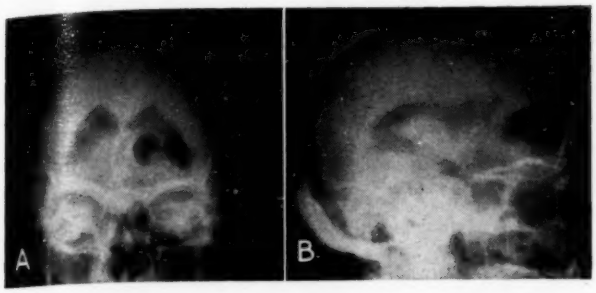

Fig. 1.—*A*, posteroanterior view of skull March 3 showing interventricular air and pocket of air in subdural and subarachnoid space. *B*, lateral view of skull March 3 showing the intracranial air.

quiet, and cooperative. His temperature was 99 F, pulse rate 80, respiration rate 20, and blood pressure 110/80. All intake was by the oral route.

On Feb. 24 a cast was applied to the left wrist, arm, and shoulder, and the next day the patient became ambulatory. On March 2 he was asymptomatic except for a marked cough, which he insisted had been present since retirement. His temperature was 98.8 F, pulse rate 84, respiration rate 20, and blood pressure 110/88. At about 10 p. m. he began having severe chills, and became dyspneic, cyanotic, and stuporous. His temperature was 102.6 F, pulse rate 96, respiration rate 36, and blood pressure 160/95. Administration of oxygen was started immediately. On examination nuchal rigidity and a questionably positive Kernig's sign suggested meningitis. Lumbar puncture was performed, and 3 cc. of slightly cloudy cerebrospinal fluid were removed under 120 mm. of spinal fluid pressure. A blood culture was done, and sulfadiazine was given intravenously, in doses of 2 gm. initially and 1 gm. every four hours. The blood culture was later reported as showing no growth. Laboratory examination of the spinal fluid revealed 200 cells per cubic millimeter, with 50% neutrophils and 50% lymphocytes, 47.9 mg. of sugar and 100 mg. of total protein per 100 cc., and increased globulin. Roentgenograms (fig. 1) of the skull showed a fracture of the left side of the skull involving the frontal sinus, roof of the orbit, and cribiform plate. They also demonstrated air in the subdural space underlying the fracture site, air in the subarachnoid space, and

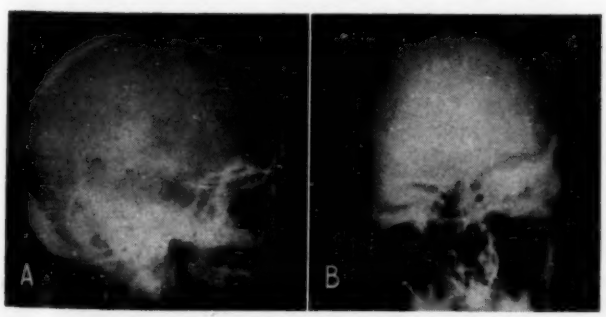

Fig. 2.—*A*, lateral view of skull showing marked reduction of intracranial air on the ninth day after insertion of the nasal pack. *B*, posteroanterior view of the skull May 16 showing absence of air and residual fracture lines.

almost complete filling of the ventricular system with air. Roentgenograms of the chest revealed a heavy mottling throughout the upper half of both lung fields, which was interpreted as a bronchopneumonia process. Supportive measures were continued, and a urethral catheter was inserted because of incontinence. The patient was critically ill through March 3 and 4, and from his state of consciousness appeared to be building up increased intracranial pressure in spite of continuous drainage of cerebrospinal fluid from his nose. It was felt that his uncontrollable cough was forcing both contaminated cerebrospinal fluid and additional air through the fracture site. On March 4 at 12:30 p. m. a posterior nasal pack was inserted. The patient's condition remained critical, with temperature varying from 100 to 102 F until the morning of March 6, when he seemed slightly improved in state of consciousness. At 5:30 p. m. his temperature spiked to 105.8 F. Laboratory findings on this day were as follows: There were 20,000 white blood cells, with 84% neutrophils. The blood urea nitrogen level was 20.5 mg. per 100 cc., the glucose level was 112 mg., and the carbon dioxide combining power was 55 vol. %. The plasma chloride level was 520 mg. per 100 cc. as sodium chloride, and the calcium level was 14.5 mg. per 100 cc. The following morning, March 7, the patient was partially oriented. His temperature was 98 F, pulse rate 104, respiration rate 26, and blood pressure 100/70. He then improved progressively. Cerebrospinal fluid drainage ceased on March 11. Roentgenograms of the skull March 13 (fig. 2*A*)

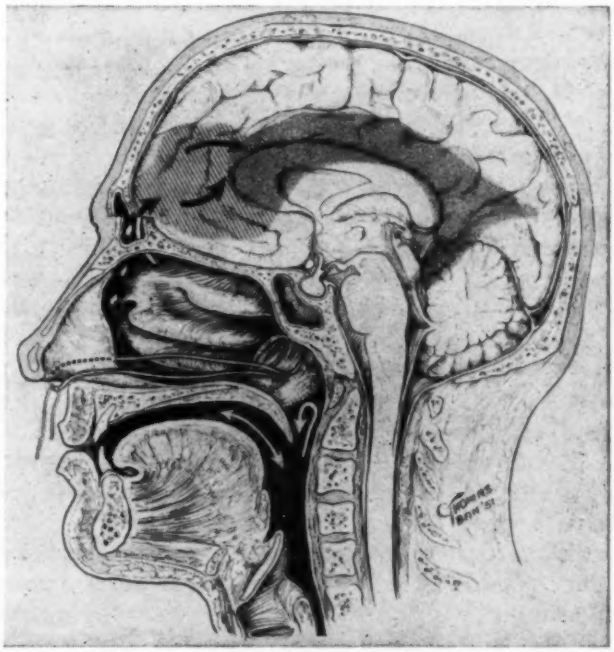

Fig. 3.—Diagram showing posterior nasal pack in place. The method by which it controls intranasal pressure is indicated.

showed no air in the ventricles and only a small pocket of air in the subdural space at the site of fracture. The posterior nasal pack was removed on March 14. His convalesence was complicated by a urinary tract infection that developed on March 20 and could not be cleared until April 3. No further complications developed, no residual neurological defects could be found, and the patient was discharged on April 24. The final roentgenogram on May 16 showed no evidence of intracranial air (fig. 2*B*). Sixteen months after injury he was in good health.

COMMENT

All reports that could be found indicated that surgery was necessary if such a patient were to recover, but because of the respiratory complications it was feared that he would not tolerate the anesthesia. In this patient, who was a poor surgical risk, a nonsurgical method of management was sought. Since for some time it has been rather unanimously accepted [5] that simple cerebrospinal

5. Dandy.[1a] Brain.[1c]

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fluid rhinorrhea will usually cease spontaneously, it was desirable to reduce this case of pneumoventricle with increased intracranial pressure to this simpler situation. When considering the mechanisms by which air may enter the cranial cavity, it became apparent that the only way in which air might be forced intracranially was by the patient increasing the air pressure in the upper nasal cavity. It appeared necessary to deny the patient both voluntary and involuntary control of the air flow through the nasopharynx. The usual nasal pack of anterior and posterior components connected by tails through the nares was considered. The anterior component was felt to be undesirable because it would obstruct the flow of cerebrospinal fluid, obliterate the avenue of decompression, and increase the chance of contaminated cerebrospinal fluid returning intracranially. For this reason the posterior component alone was selected, and the tails were tied directly over the septum. This pack, by effectively denying the patient control of the air flow through the nasopharynx, allowed the air in the nasal vault to remain at atmospheric pressure (fig. 3).

With the ingress of air under pressure halted, the air already within the cranial vault has every opportunity to decompress itself by escape through the dural tear or by absorption. With this accomplished, the pneumoventricle with increased intracranial pressure is simplified to a cerebrospinal fluid rhinorrhea, which can be managed by conservative means as advocated by Dandy [1a] and Brain.[1c]

SUMMARY AND CONCLUSIONS

A case of spontaneous pneumoventricle complicating skull fracture through the nasal sinuses is described. A previously unreported method of controlling air ingress by nasal pack is described. The advantages of posterior nasal pack as compared with anterior-posterior nasal pack are discussed. A method of reducing a condition previously considered entirely surgical to one that heals spontaneously is presented. In the absence of a neurosurgeon, this method seems worthy of trial by the attending physician.

Formula for Mental Health.—We know much more about children than we did even ten years ago. Psychiatric, psychologic, and social observations, study, and research have yielded some good ideas about what kind of personal environment is satisfactory for children's mental health. If these ideas could be widely disseminated and put to use, then there would be a considerable decrease in the functional illnesses of adults, in alcoholism, perhaps in the psychoses, and in many other troubles. Certainly adults would have far less emotional maladjustment, unhappiness, and misery.

The formula is simple—profound truth often is: Since security is the most important bulwark of the personality in meeting the conditions of adult life, security must be given during childhood. It can be given only by an environment which makes a child feel wanted and loved; he must receive frequent demonstrations of affection and protection. Concurrently, the child must be released gradually—emancipated. As there is a weaning from the breast or bottle, so, too, must there be a psychologic weaning. The silver cord must be gradually loosened and then cut. Otherwise, the cord may strangle the child when he later attempts to participate in adult emotional relationships.—E. A. Strecker, M.D., The Child and His Environment, *GP*, November, 1952.

OBSTRUCTION OF THE SMALL INTESTINE BY CORPUS LUTEUM CYST

REPORT OF A CASE

Joseph R. Wilder, M.D.
and
William A. Barnes, M.D., New York

The preoperative diagnosis of the cause of obstruction of the small intestine is often difficult. The following case illustrates an apparently unique cause of this condition.

REPORT OF CASE

A 46-year-old white woman admitted to New York Hospital in April, 1952, had had increasing cramp-like abdominal pain, nausea, vomiting, abdominal distention, and constipation for four days. The patient had undergone elsewhere the following seven major operations: in January, 1931, appendectomy and suspension of uterus; in January, 1934, bilateral salpingectomy and right oophorectomy; in August, 1937, incision and drainage of left kidney; in January, 1940, amputation of cervix and suspension of bladder; in March, 1949, subtotal gastric resection and cholecystectomy; in February, 1950, hysterectomy; and in April, 1951, left oophorectomy. Following the last operation, the patient had episodes of cramp-like abdominal pain, usually occurring once or twice a month and subsiding within 24 hours. There had been no diarrhea, bloody or tarry stools, or genitourinary symptoms. She disregarded these attacks until a severer one prompted hospitalization.

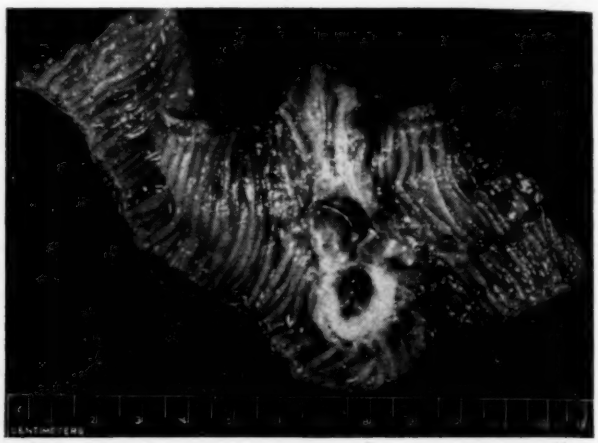

Fig. 1.—Segment of ileum showing the cystic mass in the lumen.

Examination showed a well-developed, well-nourished woman in moderate distress from abdominal pain. Temperature was 37.2 C (rectal), pulse 94, respirations 22, and blood pressure 124/80. There were numerous well-healed abdominal scars, with no spasm but moderate distention, moderate tenderness in the upper quadrants, and hypoactive peristalsis.

Laboratory studies showed the urinalysis and blood count to be within normal limits. The electrocardiogram showed no abnormalities. X-ray examination of the abdomen revealed obstruction low in the small intestine, with no evidence of distention of the colon. Because of the numerous previous operations that made likely the diagnosis of obstruction due to adhesions, because the obstruction did not seem to be complete, and because of the normal vital signs and blood count, a trial of nonoperative management was undertaken. A Miller-Abbott tube was passed, parenteral fluids were administered, and the patient was carefully observed.

From the Department of Surgery of the New York Hospital and Cornell University Medical College.

The temperature, pulse, and leukocyte count remained normal, and abdominal tenderness and distention diminished over the next 36 hours, during which time the intestinal tube passed well down into the ileum. On the second day after admission the small intestine was studied, using thorium dioxide (umbrathor®) introduced through the tube. Dilated loops of small bowel were evident, but these diminished during the next 24 hours and the umbrathor proceeded into the colon. Flatus was passed. The

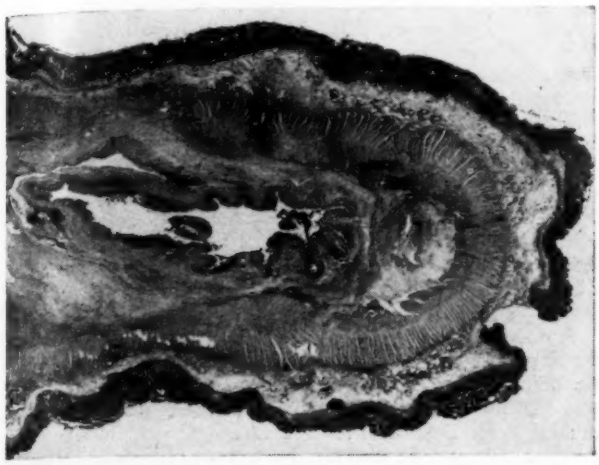

Fig. 2.—Microphotograph of the corpus luteum cyst surrounded by invaginated normal ileum.

intestinal tube was clamped, and oral feedings were started. She was rapidly progressed to a general diet and had normal bowel movements.

In the convalescent period a barium enema, upper gastrointestinal series, and examination of the small intestine with barium showed no pathological change to account for the intestinal obstruction. The patient was discharged free of symptoms after 22 days in the hospital.

One month following discharge, the patient was readmitted (June 16, 1952) because of increasing episodes of intermittent, cramp-like, abdominal pain, nausea, and vomiting. There had been no hematemesis, melena, change in bowel habits, or loss of weight. Physical examination showed the patient to be in no acute distress. Temperature was 37.4 C (rectal), pulse 80, respirations 20, and blood pressure 135/80. The abdomen presented multiple well-healed scars. There was no tenderness or distention, and peristalsis was normal.

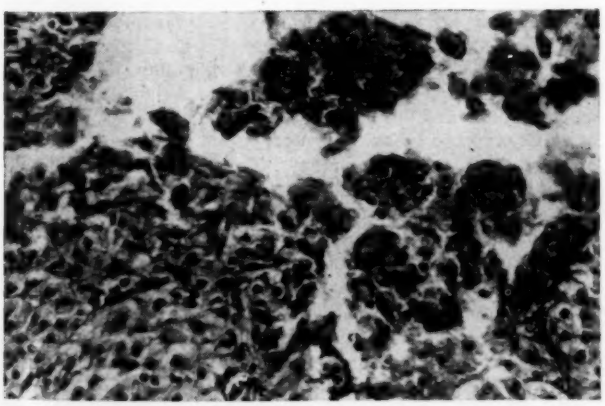

Fig. 3.—Microphotograph (high power view of area indicated in fig. 2) showing corpus luteum cells.

Laboratory studies revealed a normal urine. The hemoglobin level was 14.5 gm., there were 4 million erythrocytes per cubic millimeter, the hematocrit was 41%, and there were 4,500 leukocytes, with a normal differential count. The blood urea nitrogen level was 15 mg. per 100 cc., the serum protein level was 8.4, with the albumin-globulin ratio of 5.5:2.9. The prothrombin time was normal. Results of examinations of the stool for blood (guaiac test) were negative. X-ray studies of the upper intestinal tract and small bowel again showed no abnormalities.

In spite of the apparently normal results of x-ray studies, it was felt that an exploratory laparotomy was indicated because of the patient's increasing discomfort and recurrent bouts of intestinal obstruction that failed to respond to conservative measures. The patient was prepared for operation with a diet of clear fluids, terramycin (250 mg. every six hours) and vitamin K (4 mg. daily). On June 20, 1952, exploration was done. There were numerous adhesions throughout the abdominal cavity, but none of these apparently produced obstruction. The liver, pancreas, spleen, and kidneys were normal. The gallbladder, uterus, tubes, and ovaries were absent. In the lower ileum, 18 cm. from the ileocecal junction, a firm rubbery mass, approximately 3 cm. in diameter, was felt. There was slight dilatation and thickening of the ileum proximal to the lesion. There was no mesenteric lymphadenopathy. A segment of ileum approximately 18 cm. in length with the lesion in the center was resected. A closed type of end-to-end anastamosis was effected using interrupted sutures of no. 000 silk. The patient's postoperative course was without complication, and she was discharged apparently well on the 13th day after operation. There has been no recurrence of cramp-like abdominal pain.

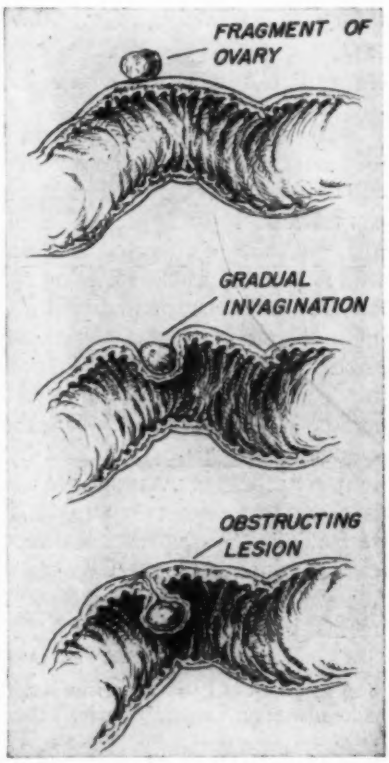

Fig. 4.—Drawing representing the probable pathogenesis of the obstructing lesion in the ileum.

Examination of the specimen showed the serosa to be continuous over the lesion. When the bowel was opened, the mass was found to be a cyst 2.5 cm. in diameter, with a firm wall lying at the apex of a segment of invaginated intestinal wall (fig. 1). The mass almost completely obliterated the lumen of the bowel. Microscopic examination revealed that the cyst was lined with corpus luteum cells surrounded by dense ovarian stroma (fig. 2 and 3). No primary follicles or ova were evident. The ovarian stroma was atached to the outercoat of the muscular wall of the ileum by vascular and fibrous adhesions among which were a few foreign body giant cells. The smooth muscle and mucosa overlying the cystic mass appeared normal.

Biopsy of the mucosa of the vagina was made 14 days after removal of the corpus luteum cyst and again three months later. In both specimens there was a thick layer of stratified squamous epithelium with keratinization of the outer layer, which was suggestive of considerable estrogenic activity.

COMMENT

This patient presumably had been subjected to bilateral oophorectomy but had never experienced menopausal symptoms. It is presumed that at one of her previous operations, one or more pieces of ovarian tissue had been liberated into the peritoneal cavity. One became adherent to the serosa of the ileum, and, by a process of invagination, resulted in the unusual obstructing lesion reported (fig. 4). Biopsy of the vaginal mucosa three months after

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resection of the corpus luteum cyst showed evidence of continued estrogenic activity, suggesting that functioning ovarian tissue may still remain.

SUMMARY

The case described illustrates an apparently unique cause of intestinal obstruction. The obstructing lesion was a corpus luteum cyst invaginating the wall of the lower ileum.

862 Fifth Ave. (Dr. Barnes).

MIXED MENINGITIS

ASSOCIATION OF MYCOBACTERIUM TUBERCULOSIS, ALPHA HEMOLYTIC STREPTOCOCCUS, AND NEISSERIA MENINGITIDIS

Marjorie J. Williams, M.B., Ch.B.
and
Mary P. Clapp, M.S., Temple, Texas

Mixed meningitis is a rare condition. Sporadic reports of cases in which multiple organisms have been cultured either simultaneously or in succession from the cerebrospinal fluid have appeared in the literature. Many of these have been collected and briefly reviewed by Conn and Rosenow.[1] The association of Mycobacterium tuberculosis with Neisseria meningitidis seems to be one of the more commonly encountered combinations. In 1940, Cislaghi [2] collected forty-three such cases from the literature and added one personally studied case. Choremis and co-workers [3] recently described four cases of tuberculous meningitis complicated by meningococcic infection. No report of meningitis in which Myco. tuberculosis is associated with two additional organisms has been found. Thus, it seems worth while to record the following case in which the leptomeninges were infected by Myco. tuberculosis, alpha hemolytic streptococci, and N. meningitidis.

REPORT OF A CASE

A 29-year-old Latin American man first entered the Veterans Administration Center, Temple, Texas, on Aug. 7, 1951, with a diagnosis of miliary tuberculosis. The history of this illness extended back to April, 1951, when a cough associated with malaise, fever, and vomiting developed. These symptoms persisted and the cough became productive of 2 to 3 oz. (60 to 90 cc.) of sputum daily. On Aug. 2, 1951, this patient was admitted to another hospital. There, the presence of acid-fast bacilli was demonstrated in his sputum by smear and culture on two occasions. X-ray examination revealed homogeneous infiltrations in both lung fields. Streptomycin therapy was instituted, and the patient was transferred to the VA Center, Temple.

This first admission was of 24 hours' duration only. Before any investigative studies could be performed, the patient left the hospital against medical advice. On Sept. 26, 1951, he was readmitted to this hospital in a semicomatose condition. During the six week period between these admissions, he had remained at his home, resting but taking no medication. Examination at this time revealed an emaciated disoriented man with a temperature of 98.6 F and a pulse rate of 95 beats per minute. He had nuchal rigidity, uncontrolled movements of the left eye, hyperactivity of the deep reflexes, and bilateral ankle clonus. Rales were detected in both lungs. A spinal puncture was performed, and turbid fluid under slightly increased pressure was withdrawn. Laboratory examination of the cerebrospinal fluid showed 128 mg. of protein per 100 cc., 46 mg. of sugar per 100 cc., 249 cells per cubic millimeter, with 75% polymorphonuclear leukocytes and 25% lymphocytes. No acid-fast bacilli were seen in smears. Alpha hemolytic streptococci were obtained from cultures. Because of insufficient cerebrospinal fluid, cultures for Myco. tuberculosis were not made. Other significant laboratory findings at this time were as follows: hemoglobin level, 10.5 gm. per 100 cc.; red blood cell count, 3,940,000 per cubic millimeter; white blood cell count, 15,800 per cubic millimeter, with 82% polymorphonuclear leukocytes; hematocrit, 34%; albuminuria, 1+; negative reaction to Kahn precipitin test. A roentgenogram of the chest, obtained with a portable machine, showed extensive exudative and proliferative infiltrations in both upper lung fields, with two small cavities on the left side.

Shortly after admission, fever developed, and this followed a septic pattern, with temperature elevations up to 104 F. Penicillin therapy, 100,000 units given intramuscularly every four hours, was instituted, and glucose and sodium chloride infusions were administered. Despite these measures, the patient's condition deteriorated, and he died Sept. 30, 1951, four days after the second admission.

Autopsy.—Gross Observations: The following observations are considered pertinent. In the upper lobes of both lungs, there was fibrosis intermingled with foci of caseous necrosis. In the other lobes, ill-defined yellowish areas of consolidation were noted, and in these were small abscesses containing grayish pus. Extensive pleural adhesions were present on both sides. The heart weighed 225 gm. and showed serous atrophy of the subepicardial fat and an unusually dark brown myocardium. On the left cusp of the mitral valve and on the margins of all three cusps of the aortic valve were small reddish-yellow soft vegetations. Apart from these vegetations, the valves showed no gross abnormalities, and the mural endocardium was smooth. The leptomeninges were cloudy and hyperemic over the surface of the cerebrum, while at the base of the brain and in the Sylvian fissures they were thickened and fibrous. There was grayish exudate in the basal portion of the subarachnoid space, and the cerebrospinal fluid was turbid. The brain weighed 1,250 gm.; on section, yellowish exudate was noted on the floor of the right lateral ventricle.

Microscopic Observations: Study of the lungs showed a patchy pneumonitis with early caseation and focal dissolution of the parenchyma. Polymorphonuclear leukocytes predominated in this inflammation, but some macrophages and lymphocytes were also present. In addition, localized fibrosing granulomatous lesions were found in both upper lobes. Acid-fast bacilli were demonstrated in both types of pulmonary lesions. Small, discrete, noncaseous granulomas were found in the liver, the spleen, both adrenals, and both kidneys. The mitral and aortic valves showed slight fibrosis with vascularization of the cusps. The vegetations were thrombotic in nature, with many entangled polymorphonuclear leukocytes. In the leptomeninges two types of inflammation were found (fig. 1). In the deeper layers, there was a fibrosing granulomatous process, in which a few discrete tubercles could be discerned (fig. 2). Superimposed on this was a diffuse caseating exudate containing many polymorphonuclear leukocytes (fig. 3). The former type of inflammation was largely restricted to the base of the brain and the Sylvian fissures, while the latter type was more widespread. At the base of the brain, the meningeal vessels had thickened walls with adventitial proliferation. In the cortical tissue underlying the granulomatous meningitis were scattered caseating tubercles. Sections through the right lateral ventricle disclosed a small subependymal focus of caseous necrosis, which was heavily infiltrated by polymorphonuclear leukocytes. With appropriate stains, acid-fast bacilli, compatible with Myco. tuberculosis, were demonstrated in both types of meningeal inflammation, in the subependymal lesion, and in the cortical tubercles.

From the Laboratory Service, Veterans Administration Center, Temple, Texas.

1. Conn, J. J., and Rosenow, O. F.: Mixed Meningitis: A Case of Combined Pneumococcus and Klebsiella Meningitis with Recovery, Arch. Int. Med. **85**: 924-932 (June) 1950.

2. Cislaghi, F.: Meningite mista tubercolare e meningococcica, La Pediatria **48**: 585-598 (Sept.) 1940.

3. Choremis, K., and others: Das Auftreten von epidemischer Meningitis bei an Meningitis tuberculosa leidenden Kindern, Schweiz. Med. Wchnschr. **80**: 138-139 (Feb. 11) 1950.

Bacteriological Observations: Cultures of spinal fluid and of the exudate in the right lateral ventricle yielded alpha hemolytic streptococci and N. meningitidis but were negative for Myco. tuberculosis. It will be recalled that alpha hemolytic streptococci only were cultured from the spinal fluid prior to death. It is possible that the antemortem cultures were negative for meningococci because of the lapse of time before the receipt of the spinal fluid in the laboratory. This delay occurred because a pyogenic infection was not suspected at the time the specimen was withdrawn. As noted, the microscopic study of the meningeal inflammation revealed acid-fast bacilli, even though the organisms failed to grow on culture. In view of the positive sputum cultures obtained earlier, the acid-fast bacilli were assumed to be Myco. tuberculosis. Alpha hemolytic streptococci were also cultured from the mitral and aortic vegetations and from the spleen. Blood from the right atrium was sterile.

Fig. 1.—Photomicrograph of a portion of the meningeal exudate, showing the lightly stained granulomatous reaction and the darkly stained caseating inflammation. To the right of the main mass of exudate, a few cortical tubercles may be seen (× 6.2).

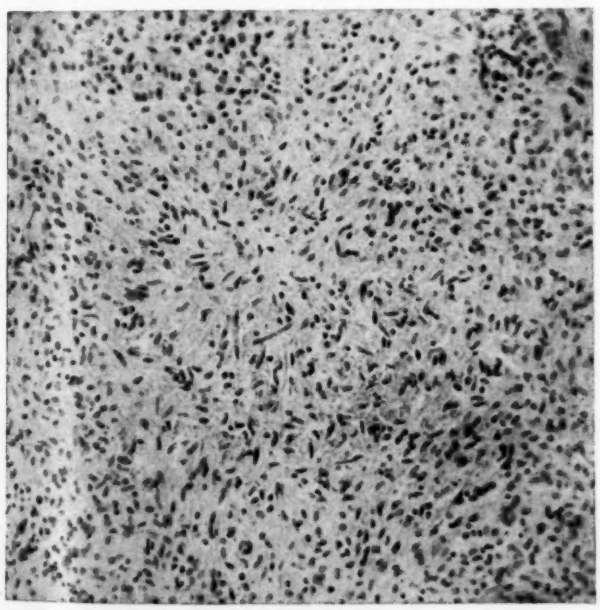

Fig. 2.—Photomicrograph showing the granulomatous meningeal reaction with tubercle formation in the center (× 128.6).

COMMENT

The significance of this case rests on several features. It demonstrates the association of Myco. tuberculosis, alpha hemolytic streptococci, and N. meningitidis in mixed meningitis. No report of a similar combination of organisms infecting the leptomeninges has been found in the literature. Attention is directed to the rarely considered fact that pyogenic infection may complicate an established case of tuberculous meningitis. In addition, the occurrence of meningitis during the course of subacute bacterial endocarditis is illustrated.

The mode of development of mixed meningitis has not been fully studied. It is probable, however, that the meninges are infected first by only one species of organism and that the resultant inflammation renders the meninges more susceptible to invasion by any circulating bacteria. The experimental work of Weed and his associates [4] and of Ayer [5] lends support to this idea. These workers found that the intravenous injection of pyogenic organisms into the common laboratory animals rarely produced meningitis unless meningeal hyperemia was present. Brockway and Jacobs,[6] in their report of a case of mixed meningitis, expressed the opinion that the first infection predisposed the leptomeninges to the second. Guthrie and Anderson [7] advanced a similar idea to account for the successive meningeal infections in their case.

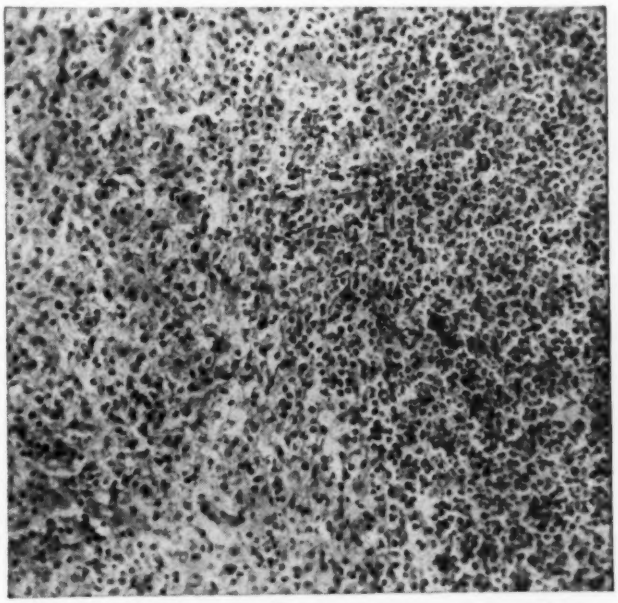

Fig. 3.—Photomicrograph showing both the granulomatous and caseating inflammatory types of meningeal reaction. The latter type is shown at the right (× 128.6).

4. Weed, L. H.; Wegeforth, P.; Ayer, J. B., and Felton, L. D.: A Study of Experimental Meningitis: IV. The Influence of Certain Experimental Procedures upon the Production of Meningitis by Intravenous Inoculation, Monograph no. 12, Rockefeller Institute of Medical Research, New York, pp. 57-112, March, 1920.

5. Ayer, J. B.: A Study of Experimental Meningitis: V. Experimental Acute Hematogenous Meningitis: A Pathological Study, Monograph no. 12, Rockefeller Institute of Medical Research, New York, pp. 113-145, March, 1920.

6. Brockway, G. E., and Jacobs, M. H.: Streptococcal Viridans Meningitis Followed by Pneumococcal Meningitis in the Same Patient with Recovery, J. Pediat. **27**: 273-281 (Sept.) 1945.

7. Guthrie, K. J., and Anderson, T.: Double Infection of the Meninges with Meningococcus and Gaertner's Bacillus, Brit. M. J. **1**: 193-194 (Feb. 8) 1941.

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We believe the mixed meningeal infection in our patient probably developed in the following manner. As a result of hematogenous dissemination of Myco. tuberculosis, tubercles developed in the brain or in the meninges, and organisms spilled from these lesions into the subarachnoid space. It has been demonstrated by Rich and McCordock [8] that this is the usual mechanism underlying the development of tuberculous meningitis. Initially, the number of organisms discharged into the subarachnoid space may have been small, and a fibrosing granulomatous type of inflammation ensued. Later, more extensive spillage, probably associated with lowered resistance and increased sensitivity, produced the caseous inflammatory reaction. The widespread distribution of acid-fast bacilli in the inflamed meninges substantiated the idea that both types of meningeal inflammation were produced by Myco. tuberculosis. A sporadic alpha hemolytic streptococcic bacteremia resulting from the endocarditis must have occurred. Lodgment of these organisms in the meninges was facilitated by previously established tuberculous inflammation. The presence of N. meningitidis in the cerebrospinal fluid is harder to explain. It must be assumed that a meningococcic bacteremia with meningeal penetration occurred as a terminal event. The invasion of the meninges by alpha hemolytic streptococci and N. meningitidis may have been insignificant in this case. It is possible, however, that these organisms may have increased the meningeal inflammation, producing further disturbance of the intracranial pressure relationships.

Recognition of mixed meningitis is important from a therapeutic standpoint. A specially selected combination of chemotherapeutic agents may be needed to effect a cure in these cases. This becomes of particular importance when tuberculous meningitis is complicated by a pyogenic infection. Streptomycin is the drug of choice for the treatment of tuberculous meningitis, but it has little effect against many pyogenic organisms. Though dual infection of the meninges by Myco. tuberculosis and a pyogenic organism is not common, the cerebrospinal fluid, if cloudy, should always be cultured for all types of bacteria. Further, in established cases of tuberculous meningitis, when the clinical course is atypical, the superimposition of a pyogenic infection should be considered.

The occurrence of meningitis secondary to subacute bacterial endocarditis has been discussed by Smith.[9] He concluded that it was an unusual and rarely considered complication and expressed the opinion that this type of meningitis may subside spontaneously, owing to the low virulence of the causative organisms. Kernohan and his associates [10] believe that neurological manifestations occur frequently in subacute bacterial endocarditis but consider bacterial meningitis a rare complication. In our case, we believe that meningeal invasion by alpha hemolytic streptococci was a terminal event and that it was facilitated by the presence of established tuberculous meningitis.

8. Rich, A. R., and McCordock, H. A.: The Pathogenesis of Tuberculous Meningitis, Bull. Johns Hopkins Hosp. **52**: 5-37 (Jan.) 1933.

9. Smith, W. F.: Meningitis Secondary to Subacute Bacterial Endocarditis, New England J. Med. **220**: 587-592 (April 6) 1939.

10. Kernohan, J. W.; Woltman, H. W., and Barnes, A. R.: Involvement of the Nervous System Associated with Endocarditis: Neuropsychiatric and Neuropathologic Observations in 42 Cases of Fatal Outcome, Arch. Neurol. and Psychiat. **42**: 789-809 (Nov.) 1939.

SUMMARY

A case of mixed meningitis involving Mycobacterium tuberculosis, alpha hemolytic streptococci, and Neisseria meningitidis is described. Previously established miliary tuberculosis and subacute bacterial endocarditis were present. The possible mode of development of this mixed meningeal infection is discussed. Attention is directed to the rare superimposition of a pyogenic meningeal infection on an established case of tuberculous meningitis. The occurrence of bacterial meningitis as a complication of subacute bacterial endocarditis is briefly discussed.

RIGHT-SIDED TRAUMATIC DIAPHRAGMATIC HERNIA SIMULATING A PLEURAL EFFUSION

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Right-sided diaphragmatic hernia in an adult, whether of congenital or traumatic origin, may present no distinctive symptoms. The classical signs of tympany on percussion or bowel sounds in the thorax may not be detected, and even after radiographic study the diagnosis may be extremely difficult and the findings misdiagnosed as a primary process within the chest. Right-sided diaphragmatic herniation of traumatic causation is a relatively uncommon condition. Recently, Child, Harmon, Dotter, and Steinberg [1] reported a herniation of the right lobe of the liver, and Knoepp [2] reported a case of herniation of the major portion of the liver, gallbladder, and hepatic flexure of the colon. Hughes and co-workers [3] reported 16 diaphragmatic hernias related to battle injury and 12 from other injuries, but of these 28 cases only 5 were on the right side. Harrington [4] reported 404 cases of surgically treated diaphragmatic hernias, and only one was on the right side. Several individual case reports [5] are noted in the literature of right-sided traumatic diaphragmatic hernia; however, it is to be noted that reports of congenital right-sided herniations in children are more frequent.[6] This case is, therefore, presented because of the rarity of the condition, the difficulty in diagnosis, and the importance of making a differential diagnosis from a primary intrathoracic disease.

A 62-year-old white man visited his physician about one month previously because of an upper respiratory infection. A few days later, a productive cough, vague upper abdominal pain that was more marked on coughing or deep inspiration, and dyspnea that seemed aggravated by deep inspiration developed in the patient. Then chills, fever, and an increase in the subjective complaints became apparent, and the patient was admitted to a hospital. In addition to the routine laboratory work, roentgenograms of his chest were taken, and his condition was interpreted as a right-

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Sponsored by the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the author are the result of his own study and do not necessarily reflect the opinion of the Veterans Administration.

1. Child, C. G., III; Harmon, G. S.; Dotter, C. T., and Steinberg, I.: Liver Herniation Simulating Intrathoracic Tumor, J. Thoracic Surg. **21**: 391-393, 1951.

2. Knoepp, L. F.: Unusual Diaphragmatic Hernia with Displaced Liver, J. Thoracic Surg. **21**: 394-397, 1951.

3. Hughes, F., and others: Traumatic Diaphragmatic Hernia, J. Thoracic Surg. **17**: 99-110, 1948.

4. Harrington, S. W.: Diagnosis and Treatment of Various Types of Diaphragmatic Hernia, Am. J. Surg. **50**: 381-446, 1940.

sided pleural effusion. A thoracentesis was performed, which, according to the patient, yielded about a syringeful of foul-smelling bloody fluid. The patient was informed that he had a lung abscess with fluid in his chest. He failed to respond to the indicated therapy. A continuous fever; nausea; a moderate cough, nonproductive in nature; a new type of right-sided pain, constant at all times and unrelated to respiration or cough; and a constant upper abdominal pain of a more marked degree than

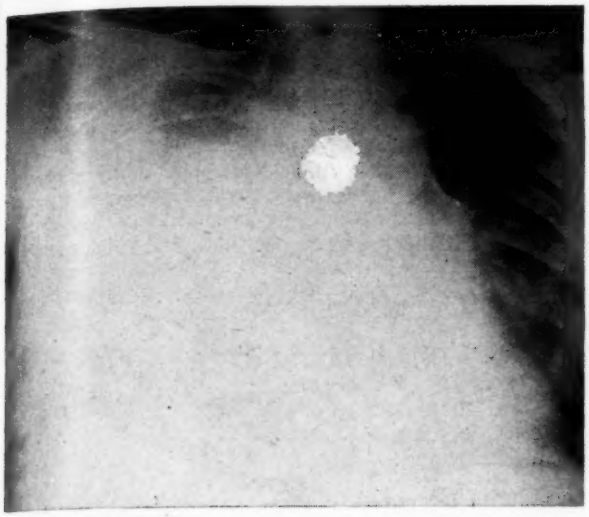

Fig. 1.—Roentgenogram of the chest, demonstrating a right pleural effusion. In the density of the effusion radiolucent areas are noted, suggesting intestine.

was previously noted developed. Vomiting occurred with an increase in the abdominal pain, and the patient was then transferred to the McGuire Veterans Administration Hospital.

On admission, physical examination revealed a well-developed malnourished man in no acute distress but evidently in marked discomfort, as noted by his restlessness, fear of breathing deeply, and marked apprehension. The findings of the chest examination were a diminished respiratory excursion, more marked on the right side; absent tactile fremitus; and dulness to percussion throughout the lower two-thirds of the right chest field. Breath

Fig. 2.—Barium enema examination showing moderately dilated colon and small intestine in the thoracic cavity. *A*, note the point of constriction as the colon passed through the hernial opening. The body of the fourth lumbar vertebra is narrowed considerably in vertical diameter (re-touched). *B*, lateral view showing the colon as it passed through the posterior hernial opening into the thoracic cavity.

sounds were absent over the corresponding area. There was no displacement of the trachea. Moderate tenderness on deep palpation was noted in the upper abdomen, and there was no rigidity.

Laboratory findings were as follows: white blood cells 11,800, with 79% polymorphonuclear leukocytes, hemoglobin 15 gm. per 100 cc., and blood urea nitrogen 26 mg. per 100 cc. Urinalysis was normal and the test for syphilis was negative. X-ray examination of the chest demonstrated an almost homogeneous density obliterating the lower two-thirds of the right lung field and obscuring the right diaphragm. The upper margin of this density was at the level of the second right anterior rib and extended along the axillary margin to the apex. About the middle of this density were several very faint, irregular, radiolucent areas with fluid levels. The mediastinum was deviated slightly to the left, and the left lung field and left diaphragm were normal (fig. 1).

Additional roentgenographic studies demonstrated numerous considerably dilated loops of intestine with fluid levels in the right hemithorax. Barium enema examination showed a normal colon from the rectum to the transverse colon. In the region of the hepatic flexure, the barium was seen to enter the chest through the posterior portion of the right diaphragm by means of a narrowed segment of large bowel. Outlined within the chest were a moderately dilated ascending colon and cecum. The terminal ileum was not visualized. Proximal to the cecum, numerous loops of dilated small intestine were noted. The right diaphragm was at the level of the 11th posterior rib, and the liver seemed to be displaced inferiorly (fig. 2). The body of the fourth lumbar vertebra was narrowed considerably in vertical height,

Fig. 3.—Postoperative film showing level of diaphragm, pleuritic reaction, and coils of intestine beneath the diaphragm.

suggesting a compression fracture. Further history elicited from the patient revealed that 23 years previously he was hospitalized for a "broken back."

The preoperative diagnosis was traumatic rupture of the right diaphragm with intestinal obstruction. At operation, on opening the right chest, a small amount of free amber-colored, nonfoul-smelling fluid was found in the pleural cavity, the ascending colon, which had a long mesentery, the cecum, and numerous loops of small intestine. The hernial opening lay posteriorly and was approximately 6 cm. in diameter. It contained a constricted segment of both large and small intestine. Anterior to the hernial opening, a loop of small intestine was adherent to the thoracic surface of the diaphragm. The diaphragm was divided from the hernial opening to the region of the adherent small bowel loop, and the adherent small bowel was separated from the diaphragm;

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6. Bradley, J. E., and Greiner, D. J.: Diaphragmatic Hernia, Am. J. Dis. Child. **66**: 143-149, 1943. Donovan, E. J.: Congenital Diaphragmatic Hernia, Ann. Surg. **122**: 569-581, 1945.

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however, at the point of adherence, an ulcerative lesion with a perforation was noted in the small intestine. Because of gangrene of part of the herniated small bowel, a small intestinal resection was done, removing the site of the perforation along with approximately 6 ft. of the small bowel. The small and large intestine was returned to the abdominal cavity, the leaflets of the diaphragm sutured together, and the thorax closed (fig. 3). The patient's convalescence was stormy because of the development of an empyema pocket in the region of the operative site. Periodic x-ray examinations of the chest showed gradual reexpansion of the right lung, and the patient was discharged 99 days after admission.

SUMMARY AND CONCLUSIONS

1. A case of traumatic right-sided diaphragmatic hernia, which probably had its onset 23 years previously, is presented.

2. The relative rarity of this condition and the paucity of diagnostic clinical findings are demonstrated.

3. It is believed that a detailed history and complete radiographic examination would have indicated the correct diagnosis on the initial hospitalization and differentiated the traumatic right-sided diaphragmatic hernia from the incorrect original diagnosis of pleural effusion and lung abscess.

DEVELOPMENTAL DEFECTS FOLLOWING IRRADIATION OF THE OVARIES IN A CHILD

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and
E. Perry McCullagh, M.D., Cleveland

This report will be of interest to endocrinologists and radiologists because it relates to the development of a girl who was given roentgen therapy in infancy as treatment for a pelvic tumor and whose ovarian function was thereby abolished. She has been examined periodically for 18 years since treatment. We have been unable to find in the literature a report of a similar case.

On July 21, 1934, the late Dr. George W. Crile Sr. operated on a baby girl 15 months of age for a slowly enlarging tumor known to have been present in the lower abdomen for about two months. Roentgenograms of the abdomen showed a tumor overlying the sacrum. The preoperative diagnosis was dermoid cyst. At operation a bluish-gray vascular tumor having the consistency of splenic tissue was found in the lower abdominal and pelvic cavity. It was about 10 cm. in diameter, firmly attached to the bifurcation of the aorta, and could not be removed. The abdominal cavity was examined. All organs were normal, and there was no lymphadenopathy. A biopsy specimen was taken. The interpretation by microscopic examination at that time was ependymoma. Recently Dr. John B. Hazard, head of the department of pathology of the Cleveland Clinic, reviewed the microscopic sections and made a diagnosis of sympathicoblastoma, or so-called neuroblastoma (fig. 1).

Roentgen therapy was administered by one of us (U. V. P.) a few days postoperatively. The tumor-ovarian dose was estimated to approximate 800 r (voltage, 200 kv.; filter equivalent, half-value layer 1.5 mm. Cu; anterior and posterior pelvic portals, 10 by 10 cm.). When seen three months later the baby had gained weight and appeared normal; the tumor had regressed to about half of its original size. A second course of roentgen therapy was administered, the tumor-ovarian dose being about 500 r. The total dose from both courses was approximately 1,300 r. After this the tumor could no longer be felt.

The parents had been informed of possible damage to the ovaries and epiphyses from irradiation. They realized that we were interested in the development of the child and were very cooperative. They either brought her in for examination periodically or wrote about her progress. The patient seemed to progress normally as a child but was small, as are her parents. When she was 7 years of age her bone age was estimated to be about 6 years by roentgenographs.

At the age of 17 she had not menstruated. She was referred to one of us (E. P. M.), in the department of endocrinology, for study. The important physical findings at this time were as follows: height, 59½ in.; weight, 84½ lb.; blood pressure, 154/100 mm. Hg; muscular development, good for her small stature; breasts, preadolescent without pigmentation of nipples; abdominal and pelvic anatomy, too small in proportion to the development of the rest of her body. Few fine axillary and pubic hairs were present, but external genitalia and uterus were infantile; there was no evidence of a pelvic tumor (fig. 2).

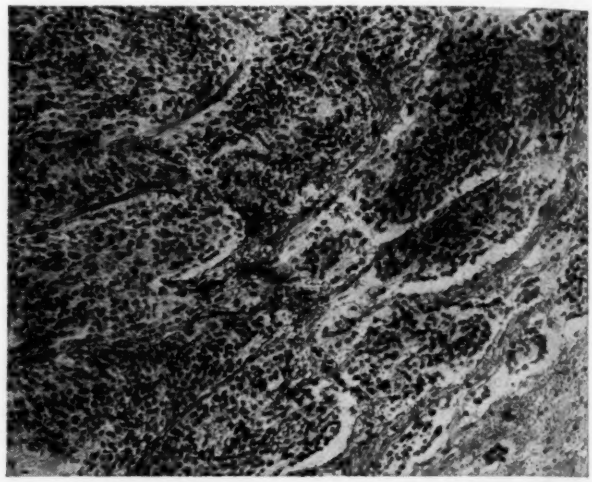

Fig. 1.—The neoplasm is formed of small cells with indefinite cytoplasmic margins and nuclei that vary in size, but are generally of round or oval shape. The cells underwent frequent mitoses and had fairly abundant chromatin. A loosely arranged and somewhat sparse fibrillary matrix appears between the cells, which are best defined by their nuclei. Islands of tumor are separated by connective tissue bands. The neoplasm is of great cellularity in foci; in several patches there are granules of purplish staining material (calcium). The diagnosis is sympathicoblastoma, or so-called neuroblastoma.

Measurements of the pelvis were as follows:[1]

	Patient, Cm.	Normal, Cm.
Interspinous	16	25
Intercristal	19	28
External conjugate	13.75	12.5
Between trochanters	24	32
Right oblique	12.75	12.75
Left oblique	12.75	12.75
Outlet	6.5	9.5 to 11.5

Roentgenograms made at this time included those of hands, wrists, elbows, vertebrae, and pelvis, and were interpreted as showing a degree of skeletal maturity of about 13½ years. Although her ovarian deficiency caused delay in skeletal maturation generally, it was evident that the irradiation of the epiphyses of the bones of the pelvis also delayed their growth, resulting in a much greater degree of interference with development of the bones of the pelvis than that seen elsewhere (fig. 3).

Laboratory examinations were as follows: blood count and hemoglobin, normal; Wassermann and Kahn tests, negative; blood sugar, 106 mg. per 100 cc.; blood urea nitrogen, 33 mg. per 100 cc.; urea clearance, 75% of normal in first hour and 71% of normal in second hour; urinalysis, normal; vaginal smear, typical castrate type. Urinary gonadotrophin levels were more than 105 and less than 212 mouse units per 24 hours (normal, 6 and 50). This assay is entirely consistent with the

Former Head of the Department of Therapeutic Radiology, Cleveland Clinic (Dr. Portmann), and Cleveland Clinic Foundation and the Frank E. Bunts Educational Institute (Drs. Portmann and McCullagh).

1. The measurements were made by Dr. E. P. Kennedy and based on Gynecology and Obstetrics, Davis, C. H., editor, Hagerstown, Md., W. F. Prior Company, Inc., 1934, vol. 1, pp. 3-6.

idea that ovarian failure was primary, resulting in pituitary hyperactivity. A diagnosis of hypo-ovarianism due to irradiation of the ovaries in infancy was made, based on the physical examination and the excess of pituitary gonadotrophin.

Estrogen therapy was begun. Diethylstilbestrol was given orally in a dose of 5 mg. per day. After four months of this therapy small masses of breast tissue were visible and palpable bilaterally. The nipples and areola, as commonly happens under such treatment, had become deeply pigmented, almost black, hyperkeratotic, and scaly. Axillary and pubic hair appeared. The vaginal smear changed from the infantile type to one showing a 3 plus estrogen effect. The dose of diethylstilbestrol was increased to 10 mg. per day. After an additional six months of such treatment, the patient's height was 60½ in. She was now 18 years, 5 months of age, and skeletal maturity as judged by roentgenographic examination had advanced to that normal in 18-year-old girls. Breast development was judged to be normal

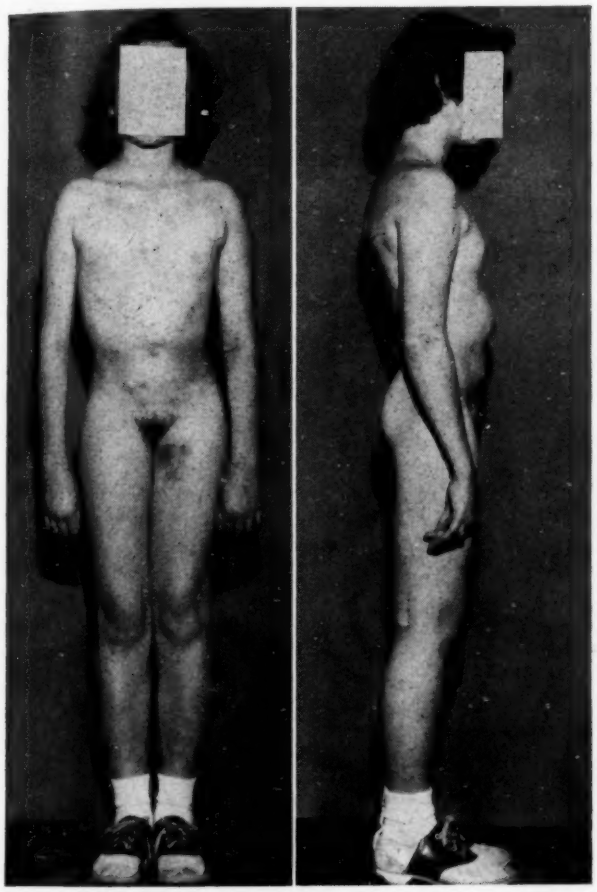

Fig. 2.—Patient, aged 17, shows small pelvis, scant suprapubic hair, and undeveloped breasts; height is 59½ in.

for a girl aged 13. Cessation of therapy was followed by vaginal bleeding that lasted six days. Cessation of treatment led to reversion of the vaginal smear to the infantile type, and during that time reassay of urinary gonadotrophin showed again an abnormally high level of over 318 mouse units of follicle-stimulating hormone per day.

It appeared, however, that progress during the last three months of therapy had been unduly slow, and in an attempt to develop a more normal response, including glandular breast development, progesterone was added to the estrogen therapy. Each dose of progesterone was 25 mg. given intramuscularly on alternate days in four doses; it was given during the last 10 days of each monthly course of therapy to simulate the normal postovulatory progesterone output of the ovaries. After three more months further breast growth was evident. Treatment was withheld for a few days after each course of four injections of progesterone, and artificial menstrual bleeding was produced regularly.

COMMENT

It is of interest in connection with this case that many investigators have found that irradiation of the ovaries of mice may result in the development of granulosa cell tumors, luteomas, and tubular adenomas. Among those who have made this observation are Furth and Boon who state: "Following irradiation of 4 to 6 week old mice with 87 r, 175 r, or 350 r, ovarian tumors began to appear when the mice were about 11 months of age. The frequency of these neoplasms increased with time and almost every mouse that lived 17 months developed a unilateral or bilateral ovarian growth, irrespective of the dose of irradiation."[2] They point out that: "X-rays have been extensively used to sterilize women . . . Most women exposed to x-rays are middle-aged and the available experimental data cast doubt on the possibility of producing ovarian tumors under such conditions."

Not only middle-aged but also many younger women have had irradiation of the pelvic organs that has completely or temporarily suppressed ovarian functions.

Fig. 3.—Small pelvis and delayed epiphyseal union in 17-year-old patient; bone age is 13½ years.

Some women to whom small doses have been administered have subsequently become pregnant and given birth to normal infants. It might be postulated, on the basis of the experiments mentioned, that, if the average life span of mice is 2 years and of women 66 years, it would be approximately 33 years after irradiation of the ovaries that tumors should appear in women. This would suggest that in women irradiated in the 30's tumors might develop before the women are 66 years of age; however, we have been unable to find in the literature a single report of a woman developing a primary ovarian tumor that could be attributed to irradiation.

SUMMARY

This case illustrates physical underdevelopment following intensive irradiation of the ovaries and pelvic region in infancy and the value of estrogen therapy in overcoming the effects of ovarian deficiency produced.

712 N. Fourth Ave. (Dr. Portmann).

2. Furth, J., and Boon, M. C.: Induction of Ovarian Tumors in Mice by X-Rays, Cancer Res. 7: 241-245 (April) 1947.

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MEIGS' SYNDROME

REPORT OF A CASE

George W. Hilliard, M.D., Milwaukee
Christian Moorhead, M.D.
and
Carr A. Treherne, M.D., Nashville, Tenn.

Cullingworth [1] in 1879 published an account of a patient, who had pelvic masses, ascites, and hydrothorax. By 1932 five more cases were added and Meigs and Cass [2] in their report in 1937 brought this syndrome to the attention of the medical world. The syndrome is now called Meigs' syndrome. A review of the literature in 1951 revealed that less than 100 cases have been reported.

This condition usually occurs in women past the menopause. The symptoms have chiefly been dyspnea and swelling of the abdomen, although weakness, chest and abdominal pain, and cough have been present. The duration of the symptoms may run from days to several years. The location of the pelvic mass has been equally divided between the two sides and in about 10% of the cases has been bilateral. The usual site of the pleural effusion has been on the right side. In 10% of the cases it has occurred only on the left, while in 15% the effusion has been bilateral. The mechanism of the pleural effusion is still unknown. Several mechanisms, however, have been postulated; (1) obstruction of the azygos vein, (2) the alarm reaction of Selye, (3) perforations of the diaphragm, and (4) lymphatic drainage. Kelly and Cullen,[3] Nelson and Dennison,[4] and others have shown that ascites and pleural effusion may be associated with pelvic tumors other than ovarian fibroma.

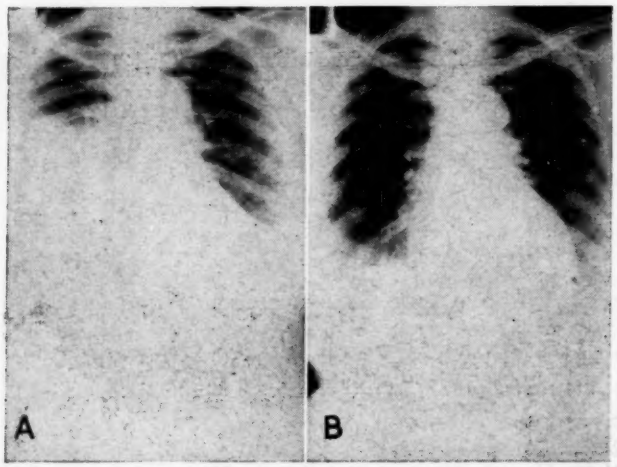


Fig. 1.—*A*, roentgenogram of chest at time of admission showing bilateral pleural effusion. *B*, roentgenogram of chest at time of discharge from hospital showing some fluid in the right pleural space and no fluid in the left pleural space.

1. Cullingworth, cited by Meigs, J. V.: Fibroma of the Ovary with Ascites and Hydrothorax: Further Report, Ann. Surg. **110**: 731, 1939.

2. Meigs, J. V., and Cass, J. W.: Fibroma of the Ovary with Ascites and Hydrothorax, with Report of 7 Cases, Am. J. Obst. & Gynec **33**: 249, 1937.

3. Kelly, H. A., and Cullen, T. S.: Myomata of the Uterus, Philadelphia, W. B. Saunders & Company, 1900, pp. 30-38.

4. Nelson, K., and Dennison, C. W.: Pelvic Tumors with Ascites, Hydrothorax, or Both (Meigs' Syndrome), Ann. Int. Med. **34**: 1055, 1951.

REPORT OF CASE

A 57-year-old Negro woman was admitted to Hubbard Hospital of Meharry Medical College on Jan. 22, 1951. She complained of lower abdominal pain and shortness of breath. While carrying a large scuttle of coal up a stairway one month previously, she had suffered a sharp pain in her lower abdomen that subsequently caused her to go to bed. She was forced to use two or three pillows to minimize shortness of breath. She had never noticed swelling of her feet, ankles, or hands. A palpable mass in her abdomen had been present for five years. Within recent months it had increased in size, and there had been a feeling of abdominal fullness.

The menarche occurred at 12 years of age. Her periods occurred at 28 to 30 day intervals, lasting 3 to 4 days without complications. She menstruated last in October, 1949, and had never been pregnant.

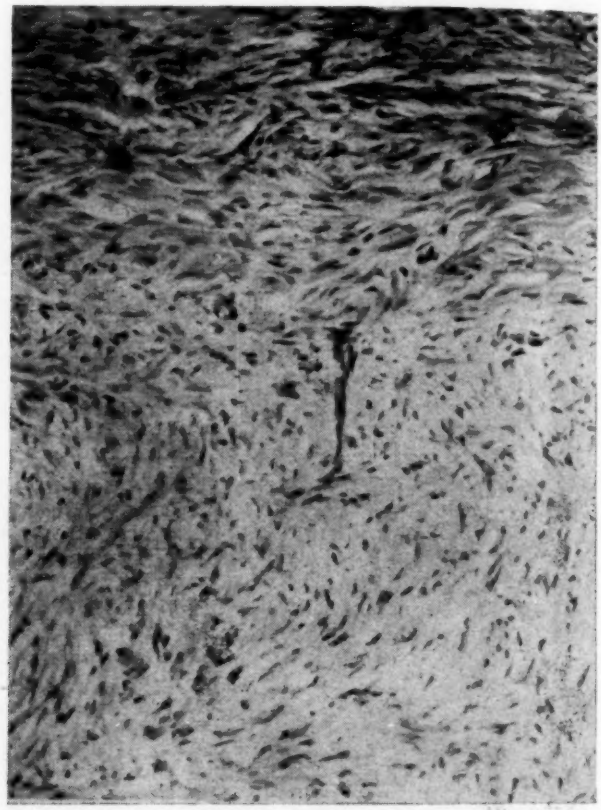


Fig. 2.—Section of ovarian fibroma (× 150).

Physical Examination.—The patient was a well-developed woman with a protuberant abdomen and a moderate degree of dyspnea. Impaired breath sounds and flatness were noted inferiorly over both lung fields anteriorly and posteriorly. An irregular, nontender, firm mass filled the abdomen to the level of the zyphoid process. Vaginally the mass was palpable in the cul-de-sac. The body of the uterus was nodular and twice its normal size.

Laboratory Findings.—The hemoglobin level was 16.5 gm. per 100 cc. The white blood cell count was 5,550 per cubic millimeter; the Schilling count revealed 70% segmented neutrophils and 30% lymphocytes. The hematocrit was 45%. The corrected sedimentation rate was 35 mm. per hour (Wintrobe). Results of routine urinalysis were negative. Further blood studies revealed the blood sugar level to be 100 mg. per 100 cc., nonprotein nitrogen 28 mg. per 100 cc., and the Kahn serologic test negative. The chest roentgenogram revealed bilateral pleural effusion with the mediastinal shadows pushed to the left (fig. 1*A*). Pleural fluid from the right side had a specific gravity of 1.023 and a pH of 7.5. Bacteriological studies of this fluid were negative. The pathological report on fluid was "pleural fluid-serous hemorrhagic."

Hospital Course.—On Jan. 23, 1951, 2,050 cc. of straw-colored fluid were aspirated from the right pleural space, with no ill effect to the patient. Three days later, on Jan. 26, 1951, a

laparotomy was done with the patient under nitrous oxide and ether anesthesia. About 2,000 cc. of straw-colored fluid were aspirated from the peritoneal cavity. The right ovary was represented by a greyish white nodular mass approximately 16 by 8 cm. in size, with cystic areas and a glistening peritoneal surface. The left ovary was about twice normal in size, hard, pale grey, and nodular. A total hysterectomy and bilateral salpingo-oophorectomy were performed. A roentgenogram of the chest on Feb. 2, 1951, revealed a small amount of fluid in the right pleural space and no fluid in the left pleural space (fig. 1*B*). The roentgenogram on May 28, 1952, showed no abnormalities. The patient at this time was asymptomatic. The pathological diagnosis was fibromas of the right ovary (fig. 2).

SUMMARY

A case of Meigs' syndrome is described. The patient was a 57-year-old Negro woman whose primary complaints were abdominal enlargement, dyspnea, and abdominal pain. The criteria of Meigs' syndrome, the presence of an ovarian fibroma with ascites and pleural effusion, are fulfilled in this case.

325 W. North Ave. (Dr. Hilliard).

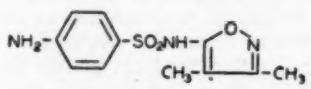
COUNCIL ON PHARMACY AND CHEMISTRY

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

R. T. STORMONT, M.D., *Secretary.*

Sulfisoxazole.—Gantrisin (Hoffmann-LaRoche).—$C_{11}H_{13}N_3O_3S$.—M.W. 267.30.—N[1]-3,4-Dimethyl-5-isoxazolylsulfanilamide.—The structural formula of sulfisoxazole may be represented as follows:



Actions and Uses.—Sulfisoxazole shares the actions and uses of other sulfonamide derivatives. See the general statement on sulfonamides (New and Nonofficial Remedies 1952). There is some evidence to indicate that sulfisoxazole is an antibacterial agent of choice against Proteus infections. It may vary in its effectiveness against different strains of sulfonamide-sensitive micro-organisms. Because of its relatively high solubility in body fluids, the drug is less likely to produce crystalluria and renal blocking than less soluble sulfonamide derivatives employed singly; otherwise it has the same potentiality for toxic reactions.

Dosage.—The initial oral dose for adults is 4 to 6 gm., followed by 1 to 2 gm. every four hours until temperature has been normal for at least 48 hours.

For children, 50 to 100 mg. per kilogram of body weight may be given orally initially, followed by 200 mg. per kilogram of body weight daily in divided doses at 4-hour intervals, until temperature has been normal for at least 48 hours.

Tests and Standards.—

Physical Properties: Sulfisoxazole is a white, odorless, tasteless, crystalline powder. It melts between 192 and 195°. It is freely soluble in diluted hydrochloric acid and soluble in alcohol.

Identity Tests: Suspend about 20 mg. of sulfisoxazole in 5 ml. of water and add sodium hydroxide T.S. dropwise until the sulfisoxazole dissolves. Add 2-3 drops of copper sulfate T.S.: the solution turns green and a greenish blue precipitate forms *(distinction from sulfathiazole which turns purple).*

Dissolve about 10 mg. of sulfisoxazole in 2 ml. of diluted hydrochloric acid with heating. Cool in an ice-bath, add 3 drops of freshly prepared 1% sodium nitrite, and make up to 4 ml. with water: the solution turns yellow *(distinction from sulfanilamide which remains colorless).* To this cold solution add 1 ml. of 10% sodium hydroxide containing 10 mg. of β-naphthol: an orange-red precipitate forms.

Purity Tests: Dissolve 0.5 gm. of sulfisoxazole in a mixture of 5 ml. of nitric acid and 15 ml. of water in a Nessler tube. Add 1 ml. of silver nitrate T.S. and make up to 50 ml. Mix well and allow to stand protected from sunlight for 5 min.: the turbidity is no greater than that produced by 0.1 ml. of 0.02 *N* hydrochloric acid treated in the same manner.

Dissolve 0.5 gm. of sulfisoxazole in a mixture of 5 ml. of 1 *N* sodium hydroxide and 20 ml. of water. Dilute 0.1 ml. of U. S. P. standard lead nitrate stock solution with 5 ml. of 1 *N* sodium hydroxide and make the solution up to 25 ml. with water. To the standard and test solutions add 5 drops of sodium sulfide T.S.: no more turbidity develops in the test solution than in the standard, corresponding to a heavy metals limit of 20 ppm.

Dry about 1 gm. of sulfisoxazole, accurately weighed, at 105° for 4 hours: the loss in weight does not exceed 0.5%.

Thoroughly char about 1 gm. of sulfisoxazole, accurately weighed. Moisten the residue with 1 ml. of sulfuric acid and cautiously ignite to constant weight: the amount of sulfated ash does not exceed 0.1%.

Assay: (Sulfisoxazole) Transfer to a 200 ml. volumetric flask 0.1 gm., accurately weighed, of sulfisoxazole purified by recrystallization from alcohol to give a product melting at 194-195°. Add 25 ml. of 0.1 *N* sodium hydroxide, warm the flask to dissolve the sulfisoxazole, cool to room temperature, and fill to the mark with 4 *N* sulfuric acid. Transfer 10 ml. of this solution to a 250 ml. volumetric flask and fill to the mark with water to give a standard working solution. Transfer to separate 25 ml. volumetric flasks 4, 5, 6, 7, and 8 ml. portions of the standard working solution. To each flask and to a blank add 1 ml. of 4 *N* sulfuric acid, enough water to make about 12 ml., and 1 ml. of freshly prepared 0.1% sodium nitrite. Shake the flasks and allow them to stand for 5 min. Add 1 ml. of 0.5% ammonium sulfamate to each flask, shake them, and allow them to stand for 2 min. (Ammonium sulfamate solution is stable for 1 month when kept under refrigeration in amber bottles.) Add 1 ml. of Bratten-Marshall reagent [made by dissolving 0.1 gm. of N-(1-naphthyl) ethylenediamine dihydrochloride in 100 ml. of water. The solution is stable for 1 month when kept under refrigeration.], fill to the marks with water, shake well, and allow them to stand for 15 min. in the dark. Measure the absorbancies of the reaction mixtures at 5400 Å. Plot absorbancies versus concentrations to give a standard curve. Accurately weigh into a 200 ml. volumetric flask 0.1 gm. of the sulfisoxazole to be analyzed, dissolving it in 25 ml. of 0.1 *N* sodium hydroxide by warming the flask, cool to room temperature, and fill to the mark with 4 *N* sulfuric acid. Transfer 10 ml. of this solution to a 250 ml. volumetric flask and fill to the mark with water to give a sample working solution. Transfer to a 25 ml. volumetric flask 5 ml. of this solution and add 1 ml. of 4 *N* sulfuric acid, 6 ml. of water, and 1 ml. of freshly prepared 0.1% sodium nitrite. Proceed as directed under the preparation of the standard curve starting with, "Shake the flasks . . ." Read the concentration of sulfisoxazole from the standard curve. The amount of sulfisoxazole present is not less than 97.0 nor more than 103.0%.

Accurately weigh about 1 gm. of sulfisoxazole into a 250 ml. Erlenmeyer flask. Add 45 ml. of 0.1 *N* sodium hydroxide and heat to boiling to dissolve the sample. Cool and back-titrate with 0.1 *N* sulfuric acid using phenolphthalein T.S., as an indicator. Add 1 ml. of 0.1 *N* sulfuric acid in excess. Boil the solution for 2 min., to eliminate carbon dioxide, cool, and titrate with 0.1 *N* sodium hydroxide to a permanent light pink end point. Each milliliter of 0.1 *N* sodium hydroxide consumed is equivalent to 0.02673 gm. of sulfisoxazole. The amount of sulfisoxazole present is not less than 95.0 nor more than 105.0%.

Dosage Forms of Sulfisoxazole

SYRUP. *Assay:* (Sulfisoxazole) Transfer to a 1000 ml. volumetric flask an amount of syrup equivalent to 5 gm. of sulfisoxazole, using about 50 ml. of 1 *N* sodium hydroxide to rinse the flask. Add about 100 ml. of 1 *N* sodium hydroxide, shake well, and warm under a hot water tap to dissolve the sulfisoxazole. Cool and acidify with 300 ml. of 4 *N* sulfuric acid. Cool to room temperature and fill to the mark with water. Transfer to a 500 ml. volumetric flask 10 ml. of this solution and fill to the mark with water. Transfer to a 100 ml. volumetric flask 20 ml. of this solution and fill to the mark with water. Transfer to a 25 ml. volumetric flask 5 ml. of the last solution, add 1 ml. of 4 *N* sulfuric acid, 8 ml. of water, and 1 ml. of freshly prepared 0.1% sodium nitrite. Proceed as directed in the spectrophotometric assay for sulfisoxazole in the monograph for sulfisoxazole starting with, "Shake the flasks . . ." Read the concentration of sulfisoxazole from the standard curve. The amount of sulfisoxazole present is not less than 93.0 nor more than 107.0% of the labeled amount.

TABLETS. *Assay:* (Sulfisoxazole) Transfer to a 200 ml. volumetric flask an amount, accurately weighed, of ground tablets equivalent to 0.1 gm. of sulfisoxazole. Add 25 ml. of 0.1 *N* sodium hydroxide to dissolve the sulfisoxazole, warm the flask under a hot water tap, cool to room temperature, and make up to volume with 4 *N* sulfuric acid. Centrifuge about 50 ml. of this solution at 3000 rpm. for 5 min. Pipet 10 ml. of the clear supernatant liquid into a 250 ml. volumetric flask and dilute to the mark with water. Transfer to a 25 ml. volumetric flask 5 ml. of this solution and add 1 ml. of 4 *N* sulfuric acid, 8 ml. of water, and 1 ml. of freshly prepared 0.1% sodium nitrite. Proceed as directed in the spectrophotometric assay for sulfisoxazole in the monograph for sulfisoxazole starting with, "Shake the flasks . . ." Read the concentration of sulfisoxazole from the standard curve. The amount of sulfisoxazole present is not less than 95.0 nor more than 105.0% of the labeled amount.

Hoffmann-LaRoche Inc., Nutley, N. J.

Powder Gantrisin: 4.72, 113.4, and 454 gm. bottles.

Syrup Gantrisin: 118.3 and 473 cc. bottles. A flavored syrup containing 0.1 gm. of sulfisoxazole in each cubic centimeter.

Tablets Gantrisin: 0.5 gm.

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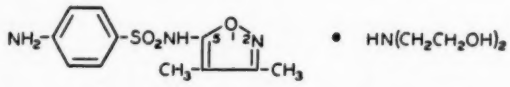
Sulfisoxazole Diethanolamine.—Gantrisin Diethanolamine (Hoffmann-LaRoche).—$C_{11}H_{13}N_3O_3S.C_4H_{11}NO_2$.—M.W. 372.44.—2,2′-Iminodiethanol salt of N^1-3,4-dimethyl-5-isoxazolylsulfanilamide.—Sulfisoxazole diethanolamine is made by adding enough diethanolamine to a solution of sulfisoxazole to bring the pH to about 7.5. The sulfisoxazole responds to the tests and standards for this substance. The structural formula of sulfisoxazole diethanolamine may be represented as follows:



Actions and Uses.—Sulfisoxazole diethanolamine is used as a salt of sulfisoxazole to make the drug more soluble at the physiologic pH range of 6.0 to 7.5. Diethanolamine reacts with the sulfisoxazole to form a soluble salt. The diethanolamine salt, therefore, is used in solution for systemic administration of the drug by slow intravenous, intramuscular, or subcutaneous injection when sufficient blood levels cannot be maintained by oral administration alone, and for instillation of drops in the eye for the local treatment of susceptible infections. The salt shares the actions of its parent, sulfisoxazole, which is employed for oral administration. See the monograph on sulfisoxazole and the general statement on sulfonamides (New and Nonofficial Remedies 1952).

Dosage.—A solution of 40% sulfisoxazole in the form of the diethanolamine salt may be used for slow intravenous or intramuscular injection. No more than 5 cc. intramuscularly should be injected at any one site. For subcutaneous administration, the sulfisoxazole diethanolamine solution containing 40% sulfisoxazole must be diluted with sterile distilled water to 5% or less. The dosage should not exceed that for oral administration of the parent drug, sulfisoxazole (see the monograph on sulfisoxazole). Intravenous, intramuscular, or subcutaneous injection should not replace oral administration except when the drug cannot be adequately administered by that route.

For ophthalmic use, a solution of 4% sulfisoxazole in the form of the diethanolamine salt may be used for topical application in the conjunctival sac. This concentration is approximately isotonic. Two or three drops may be instilled into the eye three or more times daily. Occasionally, a transient, slight burning or stinging sensation may occur immediately following instillation, but this usually disappears in a few minutes.

Tests and Standards.—

Dosage Forms of Sulfisoxazole Diethanolamine

SOLUTIONS. *Physical Properties:* The solutions have a pH of about 7.5.

Identity Tests: (Sulfisoxazole) The substance responds to the identity tests for sulfisoxazole in the monograph for sulfisoxazole.

(Diethanolamine) Evaporate an amount of solution equivalent to about 0.2 gm. of sulfisoxazole diethanolamine almost to dryness on a steam bath. Add 10 ml. of absolute alcohol to dissolve the diethanolamine. Filter the solution into a beaker, washing the filter paper and precipitate of sulfisoxazole with two 3 ml. portions of absolute alcohol. To the combined filtrate and washings add 15 ml. of a 10% solution of anhydrous oxalic acid in absolute ether. Add 10 ml. of absolute ether to the solution. Filter the mixture through a sintered glass funnel and wash the precipitate thoroughly, with shaking, with five or six 10 ml. portions of absolute ether, filtering with gentle suction after each washing. Dry the precipitate at about 50° for 1 hour: the melting point of the diethanolamine oxalate formed is about 97°.

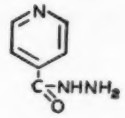
Assay: (Sulfisoxazole) Transfer to a 1000 ml. volumetric flask an amount of solution, accurately measured, equivalent to about 0.8 gm. of sulfisoxazole, and fill to the mark with water. Transfer to a 200 ml. volumetric flask 5 ml. of this solution and fill to the mark. Transfer to a 25 ml. volumetric flask 5 ml. of this solution and add 1 ml. of 4 *N* sulfuric acid, 5 ml. of water, and 1 ml. of freshly prepared 1% sodium nitrite. Proceed as directed in the spectrophotometric assay for sulfisoxazole in the monograph for sulfisoxazole starting with, "Shake the flasks . . ." Read the concentration of sulfisoxazole from the standard curve. The amount of sulfisoxazole present is not less than 95.0 nor more than 105.0% of the labeled amount.

Hoffmann-LaRoche Inc., Nutley, N. J.

Ophthalmic Solution Gantrisin Diethanolamine: 30 cc. dropper bottles. A solution containing 40 mg. of sulfisoxazole as the diethanolamine salt in each cubic centimeter.

Solution Gantrisin Diethanolamine: 5 cc. and 10 cc. ampuls. A solution containing 0.4 gm. of sulfisoxazole as the diethanolamine salt in each cubic centimeter.

Isoniazid.—Nydrazid (Squibb).—Pyrizidin (Nepera).—Tyvid (Merrell).—$C_6H_7N_3O$.—M.W. 137.14.—Isonicotinic acid hydrazide.—The structural formula of isoniazid may be represented as follows:



Actions and Uses.—Isoniazid is an antibacterial agent highly active in vitro against human, bovine, and Calmette-Guérin bacillus strains of Mycobacterium tuberculosis. In vitro, it is effective at concentrations of 0.02 to 0.06 μg per milliliter; streptomycin is inhibitory at 0.52 μg per milliliter, while *p*-aminosalicylic acid is partially inhibitory at 200 μg per milliliter. Isoniazid is effective only against mycobacteria, except for some slight activity against Trichophyton mentagrophytes and certain other species of fungus. Clinically the drug may be used in tuberculosis for simultaneous administration with other tuberculostatic agents in patients for whom chemotherapy is indicated by present criteria. The drug may be employed alone in tuberculous patients who are already hypersensitive to streptomycin or whose tubercle bacilli are resistant to the latter drug. Otherwise, combined therapy is preferable to the administration of isoniazid alone in order to avoid if possible the development of resistance to either agent, as this would decrease the chance of early response to chemotherapy, surgical treatment, or both. Although the exact place of isoniazid in the chemotherapy of tuberculosis is still to be determined, so far it is considered to be of value in the pulmonary and renal forms of the disease, as well as in miliary tuberculosis, tuberculous meningitis, and discharging "cold abscesses."

Isoniazid is almost completely absorbed from the digestive tract. In persons with normal renal function, one-half to three-fourths of the amount ingested is recovered from the urine in 24 hours, and not more than 5 to 10% of the drug appears in the feces. The peak concentration in the blood occurs one to three hours after oral administration, and the minimal detectable concentration of 0.4 μg per cubic centimeter persists for 6 to 24 hours following a single dose of 3 mg. per kilogram of body weight. This level is above the concentration necessary for in vitro tuberculostatic effects. The concentration in the saliva is comparable to that in the blood. The drug passes readily through the meningeal barrier and is well distributed in all of the various body fluids. There is no evidence that the drug accumulates in the tissues or that tolerance develops when administration of the recommended dosage is continued.

Intramuscular injection produces plasma concentrations approximately equal to those obtained with the same dosage administered orally. Following injection, the drug is somewhat more rapidly excreted in the urine. Transient, local pain at the site of injection may be encountered. Intramuscular injection of the drug is therapeutically equivalent to oral administration and should be employed whenever the latter route is not feasible, as in coma caused by tuberculous meningitis or during the early postoperative period following pulmonary resection. An injectable solution may also be employed topically for tuberculous empyema or effusion.

Experimental animal studies indicate a wide margin of safety between the effective and toxic dose of isoniazid. Toxic doses in animals produce reversible symptoms, which include anorexia, weight loss (from loss of appetite), liver damage, and signs of central nervous system stimulation manifested by tremor, ataxia, rapid respiration, bradycardia, and, in some instances, convulsions. In laboratory animals, phenobarbital diminishes the convulsive action of isoniazid. Forced feeding has mitigated the hepatic damage produced by isoniazid in these animals. Toxic doses also produce some kidney damage in animals. Since isoniazid is excreted chiefly by the kidney, it should be given with caution and in the lowest recommended effective dose when renal damage is expected or known to exist. Renal tuberculosis should not be treated unless adequate facilities are available for estimating blood levels of isoniazid.

The toxic effects observed in human beings include vertigo, constipation, twitching of the lower extremities, drowsiness, headache, hyperreflexia, dryness of the mouth, and delay of

the urinary stream. Toxicity has not been noted in patients receiving total daily doses of 5 mg. per kilogram of body weight who did not have existing convulsive disorders. Epilepsy or convulsions (in cases of meningitis) should be adequately controlled by appropriate anticonvulsant medication before and during isoniazid therapy.

Dosage.—Isoniazid is administered orally or intramuscularly in the recommended daily dosage of 3 to 5 mg. per kilogram of body weight, divided into equal doses every 12 hours. This dosage should be exceeded only with caution and when adequate facilities are available to detect toxic symptoms. In patients seriously ill, such as those suffering from tuberculous meningitis or miliary tuberculosis, it is advisable to use a daily dosage of 7 mg. per kilogram of weight for a period of 7 to 10 days, then to reduce this to the usual maximum total daily dosage. The dosage should be reduced when signs of a toxic central nervous system stimulation develop.

Isoniazid may be used concurrently with streptomycin or dihydrostreptomycin. Either of those drugs should be administered intermittently twice weekly or every three days in doses of 1 gm. for adults or 20 mg. per kilogram of body weight for children, given intramuscularly. Concomitant use of isoniazid with daily 1 gm. doses of a streptomycin drug should be restricted to acute forms of tuberculosis and limited to a period of one to two weeks until there is more information concerning the side-effects that may result from this method of therapy.

For intramuscular injection, a solution containing 100 mg. per cubic centimeter should be administered so as to provide the same dosage as that indicated by the oral route. The same concentration can be applied topically in 10 cc. amounts three times weekly for the local treatment of tuberculous empyema or effusion.

Tests and Standards.—

Physical Properties: Isoniazid is a white, odorless, crystalline powder, m.p. 170-173°. It is sparingly soluble in alcohol, very slightly soluble in benzene and ether, and freely soluble in water. The pH of a 1% solution is 5.5-6.5.

Identity Tests: Transfer about 0.5 gm. of isoniazid to a 50 ml. round-bottomed flask and add 15 ml. of methanol, 0.5 cc. of benzaldehyde, and 1 drop of acetic acid. Reflux gently for about 20 min. and pour over about 20 gm. of chipped ice. Filter the mixture and recrystallize the precipitate from dilute alcohol: the white crystals melt at 197-200°.

A 0.001% solution, prepared as described in the spectrophotometric assay for isoniazid, exhibits an ultraviolet absorption maximum at about 266 mμ [specific absorbancy, E(1%,1 cm.), about 378] and a minimum at about 234 mμ.

Purity Tests: Dry about 1 gm. of isoniazid, accurately weighed, at 105° for 4 hours: the loss in weight does not exceed 0.5%.

Char about 0.5 gm. of isoniazid, accurately weighed, cool the residue, add 1 ml. of sulfuric acid, heat cautiously until the evolution of sulfur trioxide ceases, ignite, cool, and weigh: the residue does not exceed 0.5%.

Assay: (Isoniazid) Prepare a 0.001% solution of isoniazid as follows. Transfer to a 100 ml. volumetric flask 0.1 gm. of isoniazid, accurately weighed, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Transfer to a second 100 ml. volumetric flask 10 ml. of this solution, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Transfer to a third 100 ml. volumetric flask 10 ml. of this last solution, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Spectrophotometrically determine the absorbancy in a 1 cm. quartz cell at 266 mμ, using 0.1 *N* hydrochloric acid as a blank. The concentration of isoniazid in the solution in mg./ml. = absorbancy ÷ 37.8. The amount of isoniazid is not less than 95.0 nor more than 105.0%.

Transfer to a 250 ml. iodine flask 50 mg. of isoniazid and dissolve it in 50 ml. of water. Add 1 gm. of sodium bicarbonate and 25 ml. of 0.1 *N* iodine, and allow the reaction mixture to stand for 15 min. Cautiously add 10 ml. of 5 *N* hydrochloric acid and titrate the excess iodine with 0.1 *N* sodium thiosulfate, using starch solution T.S. as an indicator. Each milliliter of 0.1 *N* iodine is equivalent to 0.003429 gm. of isoniazid. The amount of isoniazid is not less than 97.5 nor more than 102.5%.

Dosage Forms of Isoniazid

CAPSULES. *Assay:* Accurately weigh not less than 10 capsules. Cut them and drain the oil into a 50 ml. beaker. Wash the empty capsules thoroughly with ether, drain, and air dry. Weigh the dried capsules and calculate the weight of the contents. Accurately weigh an amount of oil equivalent to 0.1 gm. of isoniazid, transfer it to a 60 ml. separatory funnel by means of 15 ml. of chloroform, and extract with four 5 ml. portions of 0.1 *N* hydrochloric acid. Transfer the combined acid layers to a 200 ml. volumetric flask, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Transfer to a 100 ml. volumetric flask 10 ml. of this solution, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Transfer to a 50 ml. volumetric flask 10 ml. of this last solution, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Spectrophotometrically determine the absorbancy in a 1 cm. quartz cell at 266 mμ, using 0.1 *N* hydrochloric acid as a blank. The concentration of isoniazid in mg./ml. = absorbancy ÷ 37.8. The amount of isoniazid is not less than 95.0 nor more than 105.0% of the labeled amount.

SOLUTION. *Assay:* Transfer to a 200 ml. volumetric flask an amount of solution, accurately measured, equivalent to 0.1 gm. of isoniazid, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Transfer to a 100 ml. volumetric flask 10 ml. of the solution, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Transfer to a 50 ml. volumetric flask 10 ml. of the second solution, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Spectrophotometrically determine the absorbancy of the solution in a 1 cm. quartz cell at 266 mμ, using 0.1 *N* hydrochloric acid as a blank. The concentration of isoniazid in the solution in mg./ml. = absorbancy ÷ 37.8. The amount of isoniazid is not less than 95.0 nor more than 105.0% of the labeled amount.

SYRUP. *Assay:* Transfer to a 200 ml. volumetric flask an amount of syrup, accurately measured, equivalent to 0.1 gm. of isoniazid, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Transfer to a 100 ml. volumetric flask 10 ml. of the solution, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Transfer to a 50 ml. volumetric flask 10 ml. of the second solution, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Spectrophotometrically determine the absorbancy of the solution in a 1 cm. quartz cell at 266 mμ, using 0.1 *N* hydrochloric acid as a blank. The concentration of isoniazid in the solution in mg./ml. = absorbancy ÷ 37.8. The amount of isoniazid is not less than 95.0 nor more than 105.0% of the labeled amount.

TABLETS: *Identity Tests:* Grind a number of tablets equivalent to about 0.25 gm. of isoniazid. Place in a beaker, add 15 ml. of methanol, and heat on a steam bath. Filter the hot solution into a 50 ml. round-bottomed flask, add 0.25 cc. of benzaldehyde and 1 drop of acetic acid, and reflux for 20 min. Pour over 15 gm. of chipped ice, filter, and recrystallize from dilute alcohol: the white crystalline material melts at 197-200°.

Assay: (Isoniazid) Weigh about 20 tablets and powder them. Transfer to a 100 ml. volumetric flask an amount of powder, accurately weighed, equivalent to about 0.1 gm. of isoniazid, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Filter the solution through a dry filter paper, discarding the first 20 ml. of filtrate, and transfer 10 ml. of the remaining filtrate to a second 100 ml. volumetric flask, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Transfer to a third 100 ml. volumetric flask 10 ml. of this solution, fill to the mark with 0.1 *N* hydrochloric acid, and mix. Spectrophotometrically determine the absorbancy of the solution in a 1 cm. quartz cell at 266 mμ, using 0.1 *N* hydrochloric acid as a blank. The concentration of isoniazid in the solution in mg./ml. = absorbancy ÷ 37.8. The amount of isoniazid is not less than 95.0 nor more than 105.0% of the labeled amount.

The Bowman Bros. Drug Company, Canton, Ohio.

Tablets Isoniazid: 50 mg.

The Wm. S. Merrell Company, Cincinnati.

Tablets Tyvid: 50 mg.

Nepera Chemical Company, Inc., Yonkers, N. Y.

Tablets Pyrizidin: 50 mg. U. S. trademark 420,725.

E. R. Squibb & Sons, Division of Mathieson Chemical Corporation, New York.

Capsules Nydrazid: 50 mg. and 100 mg.

Solution Nydrazid (Intramuscular): 10 cc. vials. A solution containing 100 mg. of isoniazid in each cubic centimeter. Preserved with 0.5% chlorobutanol.

Syrup Nydrazid: 473 cc. bottles. A flavored syrup containing 10 mg. of isoniazid in each cubic centimeter. Preserved with 0.1% sodium benzoate.

Tablets Nydrazid: 50 mg. and 100 mg.

Aminophylline-U.S.P. (See New and Nonofficial Remedies 1952, p. 294).

G. D. Searle & Co., Chicago.

Supposicones Aminophylline: 0.25 gm.

Mannitol Hexanitrate (See New and Nonofficial Remedies 1952, p. 228).

S. J. Tutag & Company, Detroit.

Tablets Mannitol Hexanitrate: 32.4 mg.

***p*-Aminosalicylic Acid** (See New and Nonofficial Remedies 1952, p. 87).

Gold Leaf Pharmacal Company, Inc., New Rochelle, N. Y.

Powder Para-Pas: 113.4 gm., 226.7 gm., 454 gm., and 2.27 kg. bottles, and 11.3 kg. and 22.7 kg. drums; for compounding use.

Chlorprophenpyridamine Maleate (See New and Nonofficial Remedies 1952, p. 8).

Schering Corporation, Bloomfield, N. J.

Tablets Chlor-Trimeton Maleate (Repeat Action): 8 mg.

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SPECIAL SESSION OF THE HOUSE OF DELEGATES

A Special Session of the House of Delegates has been called by the Speaker at the request of the Board of Trustees for March 14 in Washington, D. C. The purpose of the session is to consider a proposal on reorganization of the Federal Security Agency that is being submitted to the Congress by the Chief Executive. At this session, officers of the Association will present to the House of Delegates the results of their conferences during the last month with the President of the United States, leaders of the Congress, the Federal Security Administrator, the Rockefeller Committee on Reorganization, and others. In addition, President Eisenhower has graciously accepted the invitation of the Association to present greetings to the assembled delegates.

On the basis of these reports, the House will be asked to assess its long-standing policy with respect to the administration of health activities by the federal government. That policy, reiterated as recently as December, 1952, is that the government's health activities, exclusive of the veterans and armed forces medical care programs, should be centralized in an independent health department of cabinet status. The delegates will be confronted by a problem of extraordinary complexity. Their decision will affect the future course of medicine's relations with the federal government.

MALPRACTICE INSURANCE

Elsewhere in this issue (Queries and Minor Notes, page 780), the Council on Medical Service answers a query relating to malpractice insurance rates, how they are established, and why the present trend in such rates is upward. It is important that physicians understand the economics underlying their insurance problems. However, they should not lose sight of the part that they themselves play in determining the incidence of malpractice claims and suits. The Bureau of Legal Medicine and Legislation and the A. M. A. Committee on Medicolegal Problems, through discussions, correspondence, exhibits, and reports are constantly striving to inform physicians concerning the etiology of malpractice and methods of reducing malpractice claims. Constant vigilance by the profession will eliminate the grounds for many complaints. If incidence decreases, rates may also decrease.

HAMARTOMA OF THE LUNG

The term hamartoma of the lung is currently applied to benign tumors of the bronchus that are composed of an abnormal mixture of normal elements of the bronchus, with cartilage the predominant tissue. According to Moersch, Donoghue, and McDonald,[1] who studied 35 surgically proved cases of hamartoma of the lung, the tumor occurs twice as often in men as in women and is most frequently observed during middle age. Hamartoma was found under the pleura, in the interlobar fissure, and deep in the substance of the lung itself. In 3 of the 35 patients, the tumor was located within the lumen of the bronchus, and in 2 of these 3 patients the tumors were removed by endoscopic procedures; in the remaining 32 patients, the tumors were removed surgically. The hamartomas varied from 1.5 to 3.0 cm. in diameter; the tumors were firm, solid, grayish white, lobulated, and spherical or oval.

In almost 60% of the patients, roentgenologic findings provided the only clue to the presence of a pulmonary lesion. Ordinarily, hamartomas are well circumscribed, isolated tumors that must be distinguished roentgenologically from other circumscribed pulmonary lesions such as carcinoma of the lung, adenoma of the bronchus, hemangioma, granuloma, bronchogenic cyst, pulmonary abscess, and tuberculosis. A large hamartoma containing calcium lends itself reasonably well to roentgenographic diagnosis; a small hamartoma, however, may be difficult to diagnose. Although cytological examination of the sputum is valueless in supplying specific information about hamartoma of the lung, it may sometimes provide information that will assist in differentiating malignant from nonmalignant lesions.

Hamartoma produces few pulmonary symptoms. In 57% of the patients under observation, the tumor was accompanied by a completely asymptomatic course of events. On the other hand, 15 patients (43%) had pulmonary symptoms that were believed to be caused by the tumor. Cough was the commonest symptom as well as the most difficult to interpret, since most of the patients were smokers who were unable to determine whether the cough was due to excessive smoking. Other symptoms present among the patients included thoracic pain, dyspnea, and hemoptysis. Pulmonary symptoms due to the hamartoma depended largely on the size and location of the tumor. Tumors situated near the hilus or impinging on or occupying the lumen of the bronchus produced symptoms more readily than did tumors situated in the periphery of the lung.

As a result of this study, it was concluded that if it were possible to establish a diagnosis of hamartoma of the lung in the absence of bronchial invasion it might be advisable not to remove the tumor surgically, especially since hamartoma seldom, if ever, undergoes malignant change. However, because of the difficulty of differentiating hamartoma from malignant tumors on the basis of clinical and roentgenologic observations, it is frequently necessary to remove the hamartoma surgically. Fortunately, tumors located in the lumen of the bronchus can be removed satisfactorily by endoscopic procedures.

1. Moersch, H. J., Donoghue, F. E., and McDonald, J. R.: Hamartoma of the Lung, Quart. Rev. Surg., Obst. & Gynec. 9: 191 (Dec.) 1952.

THE STRUCTURE OF INSULIN

Knowledge of the chemical structure of biologically important compounds is desirable not only for use in their possible synthesis or chemical improvement but also for a more complete understanding of their precise function in the organism. One of the most widely studied substances in this category is insulin. Many attempts have been made to elucidate the chemical nature of this hormone since its successful preparation some 30 years ago. It was soon found that insulin was a protein and hence was undoubtedly an extremely complex substance from a chemical standpoint. This was substantiated by the finding that insulin had a high molecular weight, characteristic of proteins, and that it contained nearly all of the amino acids found in most proteins with the rather remarkable exception of tryptophane, methionine, and hydroxyproline.

The recent development of greatly improved techniques for separating closely related chemical compounds by chromatography and by counter-current extraction has opened a new approach to the study of the structure of complex compounds such as proteins. One group of workers at Cambridge University in England has applied these techniques to the determination of the structure of insulin. First, a new procedure for determining the terminal free amino groups of insulin was devised.[1] The procedure involved treating insulin with 1:2:4 fluorodinitrobenzene (FDNB), which formed on the terminal free amino group a 2:4 dinitrobenzene derivative that was stable to acid hydrolysis. The insulin was then hydrolyzed, the 2:4 dinitrophenyl amino acid derivative was separated by partition chromatography, and the amino acid itself identified by chromatographic comparison with known amino acids. In this way it was found the insulin molecule had four terminal free amino groups, two of which were from glycine and two from phenylalanine. Further studies in which insulin was oxidized [2] also indicated that the molecule contained two identical pairs of peptide chains.

The elucidation of the amino acid composition and sequence in each of the two pairs of peptide chains was next attempted in an ingenious manner [3]; insulin was again oxidized and separated into the two types of peptide chains. The peptide chains were then partially hydrolyzed into smaller peptides, usually of two or three amino acids each, by acid or by proteolytic enzymes. The smaller peptides were separated by chromatography, and their amino acid composition was determined. By determining the amino acids present in the many smaller peptides, Dr. Sanger's group was able to piece together the amino acid sequence in the entire peptide chains of both types and thus establish not only the identity of all amino acids comprising the insulin molecule but the sequence in which they occur. Today insulin thus appears to be a protein with a basic molecular weight of approximately 12,000 and to be comprised of two pairs of peptide chains joined together by sulfur to sulfur linkages from cysteine. One type of peptide chain contains phenylalanine as the N-terminal amino acid and is composed of 30 amino acids in known sequence; the other two peptide chains contain glycine as the N-terminal amino acid and are composed of 21 amino acids of known sequence. The foregoing series of monumental investigations is noteworthy too in that they are perhaps the first to completely elucidate the structure of so complex a chemical substance as a protein.

HYPOPHYSIAL REGULATION OF SECRETIN

The concept that the gastrointestinal endocrine structures are self-regulating entities, entirely independent of one another and of other endocrine structures, may require revision in view of the report by Dorchester and Haist on the effects of hypophysectomy on the secretin content of the rat intestine.[1] After developing a sensitive and reliable assay procedure,[2] the University of Toronto workers determined the effect of body size and of hypophysectomy on the secretin content of the rat gut. In regard to the effect of body size it was found that there was no significant difference in the total amount of secretin extractable from the intestines of small and large rats but that the concentration of secretin per gram of intestine diminished significantly as the animal grew larger. It could not be determined whether this decreased concentration was due to failure of growth of the structures elaborating secretin or to a reduction of concentration of secretin per unit of secretory structure. Comparisons between normal animals and animals subjected to hypophysectomy receiving the same caloric intake showed a significant reduction of extractable secretin in the animals that had undergone hypophysectomy in terms of total activity, activity per gram of dried intestine, and activity per unit of body weight. Further, the reduction in secretin was not in proportion to any differences in intestinal weight.

As the authors point out, much remains to be determined concerning the possible mechanisms involved in these changes in intestinal secretin following hypophysectomy. Since the secretin-secreting cells of the intestine have not been identified, it is not known whether the reduction in secretin following hypophysectomy is due to atrophy of the secretin-producing structures or to a reduced production or increased liberation of secretin. Again it is not known whether the effect of the pituitary on the secretin-bearing cells is direct or indirect. Finally, it remains to be seen whether the atrophy of the pancreas that occurs after hypophysectomy is secondary to changes in secretin production.

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3. Sanger, F., and Tuppy, H.: The Amino-Acid Sequence in the Phenylalanyl Chain of Insulin: 1. The Identification of Lower Peptides from Partial Hydrolysates, Biochem. J. **49**: 463, 1951. Sanger, F., and Tuppy, H.: The Amino-Acid Sequence in the Phenylalanyl Chain of Insulin: 2. The Investigation of Peptides from Enzymic Hydrolysates, ibid. **49**: 481, 1951. Sanger, F., and Thompson, E. O. P.: Further Observations on the Amides and Free Carboxyl Groups of Insulin, abstracted in Proceedings of the Biochemical Society, ibid. **52**: 111, 1952.

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THE PRESIDENT'S PAGE

A MONTHLY MESSAGE

We have just had a demonstration of the age-old tradition of the medical profession to render public service in an unselfish manner. Floods of a magnitude unprecedented since the middle ages have inundated the Netherlands, a part of the coast of England, and a part of Belgium. The Netherlands was the hardest hit. One-sixth of the total area of the country was flooded by salt water, including much valuable agricultural land. Hundreds of persons were drowned. Hundreds of others were rendered homeless, destitute, and subjected to exposure.

This country, which had just recovered from the ravages of war, including the destruction of agricultural area due to the opening of the dikes in an effort to keep out the enemy, is now faced with even worse ravages, but already the country is planning its recovery.

The physicians of the Netherlands are working day and night to relieve suffering and are giving their services not only without charge but without any thought or desire for remuneration. They are carrying out the finest traditions of medicine. Throughout history physicians have always risen to give their best in flood, war, or other disaster without any thought of themselves. This is as it should be, and the Dutch physicians are proving themselves worthy exponents of the best in medicine.

This reminds me of a point I have made before, namely that we must inculcate our newly trained physicians in the ethics and traditions of medicine. This we must do if we wish to continue the idea that the first and most important aim of medicine is service to the public.

The modern medical curriculum is so crowded that it is difficult to include everything necessary and give it adequate time. The average medical student or intern has little contact with the general public, except through public clinics and public hospitals. Too few take the time or trouble to teach the student the valuable lessons of medical history. He is not familiar with the traditions of the profession. Usually his only knowledge of medical ethics he derives from a printed code that is handed to him.

Medical societies are gradually coming alive to the fact that this is insufficient and that personal instruction is essential. Some societies are giving prospective members instruction in medical society organization and in the code of ethics. Some societies are appointing older members as advisors to new members. These are steps in the right direction. Unless our incoming generations of physicians are trained not only in medical ethics but in the reasons for them, the profession is apt to become primarily economic-minded rather than public-service minded.

I have urged, and I should like to reiterate that urging, that our medical societies make it a little more difficult for applicants to become members. In my opinion, no one should be admitted until he has undergone a course of instruction, not only in medical ethics but in the organization of our medical societies, their aims, and what they do for their members. The applicants should then be required to demonstrate some familiarity with these matters, and only then be admitted. Also the new members (as well as old) should be told that the retention of their membership depends on their abiding by the ethical regulations of the profession.

I have been astonished in my travels around the country to find how many physicians know little or nothing about their medical societies, how poor the attendance is at many medical meetings, and how certain ethical regulations are repeatedly ignored. There is no doubt that, particularly in our municipal areas, there are too many medical meetings and the average physician cannot keep up with all of them and still spend an evening at home. This results in poor attendance at meetings of our county societies, as attendance is not compulsory. If our county societies are to be vital influences in community health matters as they should be, then their meetings must be better attended and their members must evince active interest in them.

How are we to bring this about? We must endeavor to reduce the number of compulsory meetings and effect combined meetings whenever possible. We must start a campaign to arouse interest in our county societies, or rather interest in the activities for which county societies ought to be responsible.

Years ago our county societies were largely scientific bodies. There were few, if any, socioeconomic problems besetting the profession. Medicine has become more complex, and its complexity has raised many problems. Hospital relationships, staff privileges, care of the indigent, public health facilities, relationships with voluntary health agencies, and the increasing participation of government in medicine are some of these problems. Practically no one can practice medicine today without being involved in one or more of them. The individual practitioner cannot hope to cope with any one of these problems, let alone all, by himself. The doctor needs his county society, but the society also needs him, and neither can be wholly effective without the other.

We hear of too many instances of commercialism in medicine, some of which could be avoided if all were properly indoctrinated. One instance of this is the increasing number of advertisements in the press, on the radio, and on television, of proprietary and even patent medicines, which state "Doctors have found," "Physicians recommend," "Leading specialists have discovered," etc. Such remarks delude the public and lower the respect in which the profession is held. I doubt if any reputable physician ever made the statements attributed to him in the advertisements. Such matters can be settled in part by stricter supervision by medical societies, but public education and community action are likewise essential.

County societies cannot take their rightful places as community health leaders unless they have the advice and participation of their members. There are various points of view on all these subjects. These must be amalgamated into constructive policies, constructive not only from a civic and a professional point of view but from a point of view of what is best for the community. Such a result can only come from far-seeing, constructive leadership, such as the medical profession can give in health matters, but it cannot exercise that leadership if only a few of its members participate. Such leadership will come about only if the medical profession is a strong, united body, imbued with all the traditions of medicine, its art, its science, and its ethics, and aims its activities toward the goal of improving the health level of the community.

I am afraid that too many physicians are indulging in wishful thinking that the clock can be turned back and that we can again practice medicine as it was practiced 25 years ago, without involvement in all these socioeconomic problems. It is idleness to believe that. These problems are upon us; our whole way of life has been altered, and, whether we like it or not, we cannot close our eyes to it. If we fail to participate and lead in the solution of these problems, the solution will be taken out of our hands, and that solution will not be a happy one. No problem can be solved well if those most competent to advise hang back and ignore it.

So it is up to those of us who are active in the affairs of medicine to educate our colleagues and to stimulate their interest in what may be termed the nonscientific aspects of medicine. Unless we handle these nonscientific matters properly, the scientific aspects will suffer, too.

Our Dutch brethren rallied to combat the ravages of meteorological devastation. While we are not faced with such devastation, we are faced with problems that we have not solved, problems that are crying for solution. They can be solved only by a united profession. Let us not be caught between the upper and nether millstones of reactionary ultraconservatism on the one hand and ideological radicalism on the other. We can solve our difficulties if all contribute by sound thinking, by looking forward, not back, and by constant striving toward an ideal that we shall never reach, because we shall steadily increase that ideal. It will be work that requires much trial and error; work that produces results by the steady process of evolution. If we follow this course, we need never face destruction of our aims and objectives by revolution.

LOUIS H. BAUER, M.D., Hempstead, N. Y.

ORGANIZATION SECTION

COMMITTEE ON LEGISLATION

At its meeting on Jan. 24, 1953, the Committee on Legislation took action on 14 legislative measures, recommending either approval or disapproval. All of the recommendations of the Committee on Legislation were approved by the Board of Trustees at its meeting Feb. 6-7, 1953. Following is a brief résumé of the bills that were considered by the Committee, as well as the position of the Association in each instance.

S. J. Res. 1 (similar bill: H. J. Res. 7)

Introduced by Senator Bricker of Ohio (and 61 other Senators) and referred to the Senate Committee on the Judiciary.

Digest of Resolution.—The resolution proposes an amendment to the Constitution of the United States that would limit the present scope of treaties and Executive Agreements. Specifically the proposed amendment would: (*a*) render void any treaty or executive agreement that denies or abridges any right enumerated in the Constitution; (*b*) outlaw any treaty authorizing any foreign power or international organization to adjudicate constitutional rights of United States citizens or any domestic issue; and (*c*) require domestic legislation to permit a treaty to become effective as internal law in the United States. To become operative, the proposed Constitutional amendment, if adopted by the Congress, must be ratified by the legislatures of three-fourths of the states within seven years from the date of its submission.

Association Position.—The Association **actively approves** the principle embodied in these resolutions. The dangers of legislation by treaty and executive agreement, as demonstrated most recently by the action of the International Labor Organization in adopting a convention proposing minimum standards of Social Security, including "socialized medicine," motivated the Association in the approval of these proposals. The action on these resolutions was in accord with the position adopted by the House of Delegates in December, 1952.

S. 70

Introduced by Mr. Young of North Dakota and referred to the Senate Committee on Armed Services.

Digest of Bill.—The bill would amend the section of the Universal Military Training and Service Act pertaining to the drafting of doctors so as to recognize service performed with countries that were allies of the United States in World War II prior to Sept. 2, 1945. The bill would also allow doctors taken into service within the past year, under the "Doctor Draft Law," who had such service during World War II to apply for release from active duty.

Association Position.—The Association **actively approves** this bill and urges that it be enacted as expeditiously as possible. At the present time, physicians who served with countries allied to the United States during World War II receive no credit for such service and are classified under the "Doctor-Draft Law" in priority 3. In view of the inequities that have resulted as a result of the wording of the present law and since it is agreed that the failure to recognize such service was an oversight, an early amendment to the law is desirable. Service with countries that were allies of the United States during World War II is recognized under the basic Selective Service Act.

S. 93

Introduced by Mr. Hill of Alabama and referred to the Senate Committee on Labor and Public Welfare.

Digest of Bill.—The bill would provide federal subsidization of prepayment plans for hospital and medical care for the purpose of furnishing such benefits to persons unable to pay premiums and would provide federal funds to pay for a state survey of (*a*) needs for necessary diagnostic facilities; (*b*) mental, tuberculosis, and chronic disease facilities; (*c*) the shortage of physicians, and (*d*) extent of enrollment in voluntary prepayment health insurance plans.

Federal funds would be furnished states that have submitted plans approved by the Surgeon General of the Public Health Service. Disbursement of such funds would be subject to regulations issued by the Federal Security Agency. State plans to be approved must comply with 24 specific requirements set out in the bill. States denied federal funds may appeal to the Hospital and Medical Care Council, which may overrule the Surgeon General. This council would be made up of 10 members appointed by the Administrator of the Federal Security Agency. The bill defines hospital and medical care as the surgical, obstetric, and medical services furnished in a hospital and hospital services incident thereto, not in excess of 60 days per year, including diagnostic and outpatient clinical services.

Association Position.—The Association **actively opposes** this bill because it would, if enacted, federalize certain functions that can and should be planned for and operated on a local level. It is believed that federal subsidization of prepayment health insurance plans will involve the establishment of federal standards which will ultimately result in federal control.

S. 106 (identical bill: H. R. 992)

Introduced by Mr. Ferguson of Michigan and referred to the Senate Committee on Government Operations.

Digest of Bill.—The bill would authorize the establishment of a commission to be known as the "Commission on Organization of the Executive Branch of the Government." The membership of the commission would consist of 12, and 4 members would be appointed by the President of the United States, 4 by the President pro tempore of the Senate and four by the Speaker of the House of Representatives. Two members would be from the executive branch of the government, two from the Senate, two from the House of Representatives, and six from private life. The commission would be authorized and directed to study the present organization and operation of the executive branch of the government and report its findings and recommendations by Feb. 1, 1954.

Association Position.—The Association **approves** this bill in the belief that a thorough survey of the executive branch of the government is in order. If properly conducted such a survey could result in the elimination of considerable overlapping of activities and waste of funds.

H. R. 8

Introduced by Mr. Dingell of Michigan and referred to the House of Representatives Committee on Ways and Means.

Digest of Bill.—The bill would authorize 60 days of hospitalization at federal expense for old-age as well as survivor beneficiaries under Old-Age and Survivors Insurance provisions of the Social Security Act. Benefits would include bed, board, nursing, laboratory work, ambulance services, operating room, and usual drugs and appliances when hospitalized. Excluded would be surgery, domiciliary care, and hospitalization for tuberculosis and mental conditions.

The Federal Security Agency would promulgate and issue regulations; funds would come from the Social Security Trust Fund; state departments of health would administer the program locally, if they accept the federal plan; otherwise, the Federal Security Agency would administer it. Estimates supplied by the Federal Security Agency indicate that nearly 7.1 million beneficiaries will be eligible for benefits under this bill in 1953 at a cost of between 191 million and 235 million dollars.

Association Position.—The Association is **actively opposed** to this measure, which has been represented as a method of providing "free" hospitalization for aged and dependent beneficiaries under the Old-Age and Survivors Insurance program. The costs involved would be paid from the Social Security Trust Fund. It is the belief of the Association that this is not a legitimate use of these funds and that such a utilization without a corresponding increase in taxes would further jeopardize the actuarial

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basis on which the Old-Age and Survivors Insurance program was established. As has been stated many times in the past, the Association is opposed to any plan that would give the federal government authority to promulgate and issue regulations governing hospitalization benefits.

H. R. 9

Introduced by Mr. Dingell of Michigan and referred to the House of Representatives Committee on Ways and Means.

Digest of Bill.—The bill would repeal section 3 (g) of the Social Security Act Amendments of 1952 (Public Law 590, 82d Congress), which provides that "notwithstanding the preceding provisions of this section and the amendments made thereby, such provisions and amendments shall cease to be in effect at the close of June 30, 1953, and after such amendments cease to be in effect any provision of law amended thereby shall be in full force and effect as though this act had not been enacted." This is the provision that rendered section 3 of Public Law 590 inoperative. Section 3, which provided for a "freezing" of Old-Age and Survivors Insurance benefits during periods of permanent and total disability, will expire automatically on July 1, 1953, unless additional legislation is enacted by the 83d Congress.

Association Position.—The Association is **actively opposed** to this bill for the following reasons. 1. The Association favors the adoption of a formula for computing Old-Age and Survivors Insurance benefits based on a wage earner's best five or ten years. Such a formula would obviate the necessity for special consideration in cases involving permanent and total disability. 2. The proposals contained in section 3 of Public Law 590, 82d Congress, have not been thoroughly explored. 3. The provisions of section 3 of Public Law 590, although administrable by state agencies, would require the establishment of over-all standards and regulations by the Federal Security Agency. 4. The intervention by the federal government in this phase of medical activity would be a further interference in the field of private medical care.

H. R. 10 (identical bill: H. R. 11)

Introduced by Mr. Jenkins of Ohio and referred to the House of Representatives Committee on Ways and Means.

Digest of Bill.—The bill would amend the Federal Internal Revenue Code to allow physicians and other self-employed persons to deduct from their taxable income those amounts used each year to finance restricted retirement plans. Employed persons not covered by existing pension plans also would qualify for the tax deduction privilege. Income received later during the years of retirement, from either pension funds or insurance annuities, would then be taxable under the prevailing rates.

The bill would provide a tax arrangement for self-employed persons similar to the tax deferment plans now authorized under section 165 (a) of the 1942 Revenue Act. The bill would allow annual deductions of 10% of earned net income, or $7,500, whichever is smaller. Total deductions during a taxpayer's lifetime could not exceed $150,000. The funds excluded from taxable income would have to be paid either to a trust fund established by an association for the benefit of its members or to an insurance company as premiums for a retirement annuity contract. In either case, no income payments or cash refunds could be made before the age of 65 except in cases of total disability or death.

The bill includes a provision enabling persons already between the ages of 55 and 75 to make larger annual deductions than the basic 10% or $7,500. This is a practical equivalent to the past service credits allowed in many employee pension plans. The bill also provides for a carry-over of unused deductions for a period up to five years. This is designed to give equitable treatment to persons with extreme fluctuations in income.

Association Position.—The Association **actively approves** these bills, which would allow tax deferment for self-employed persons to establish retirement funds. The bills would, if enacted, eliminate the discrimination and inequities existing under present tax laws by extending the tax deferment privileges of section 165 (a) of the Internal Revenue Act to the country's 10 million self-employed and also to millions of employees who are not covered by pension plans. The principle of these bills was endorsed by the House of Delegates in June, 1951, and again by the Board of Trustees and the House of Delegates in December, 1952.

H. R. 173

Introduced by Mr. Rivers of South Carolina and referred to the House of Representatives Committee on Armed Services.

Digest of Bill.—The bill would authorize the Secretary of Defense and the Surgeon General of the United States Public Health Service to provide hospitalization and medical care in military hospitals and dispensaries for dependents of service personnel. Specific authority would also be granted to the Secretary of Defense to reactivate any hospital under his jurisdiction in order to accomplish the purpose of the bill. Cross utilization of facilities by all branches of the armed services and the United States Public Health Service is also provided for.

Association Position.—The Association is **actively opposed** to this measure. At the present time congressional authority for providing medical care is not clear and it is believed that such authority has been abused by the armed services. Before providing for a sweeping extension of this authority, Congress should determine if dependent medical care is a proper emolument of military service and if so, the best method of providing it.

The expansion of such care in military installations and by military personnel without regard to the availability of civilian facilities is necessitating the induction of increased number of physicians into the armed services. The authorized or unauthorized expansion of medical care for dependents of service personnel in military installations and by military personnel plus the continuous expansion of other federal medical services will eventually result indirectly in the socialization of medical care. In addition, the expansion and construction of military medical installations to care for such dependents would require a large expenditure of federal funds.

H. R. 301

Introduced by Mr. Hoffman of Michigan and referred to the House of Representatives Committee on Government Operations.

Digest of Bill.—The bill would establish a Department of Health with a secretary of cabinet rank appointed by the President and confirmed by the Senate. A policy advisory board would be established, composed of the Secretary of Defense, the Administrator of Veterans' Affairs, and the Surgeon General of the Public Health Service.

The following functions would be transferred to the Department of Health: (*a*) Public Health Service; (*b*) department of medicine and surgery of the Veterans Administration and all hospitals, outpatient facilities, and functions, except the establishment of eligibility for hospitalization and medical care; (*c*) all hospitals and other medical facilities of the armed services, except one medical center for each service and station hospitals located where adequate care could not otherwise be provided; (*d*) hospitals and medical facilities of the Canal Zone; and (*e*) St. Elizabeths Hospital in the District of Columbia. The Public Health Service and the Department of Medicine and Surgery of the Veterans Administration (to be known as the Veterans' Medicine and Surgery Service) would continue to operate in the Department of Health. A plan for a single, unified, professional health and medical career service would be presented by the Secretary in one year. Extensive authority would be granted to the Secretary for hiring, detailing, and training of part-time and full-time personnel.

Association Position.—The Association is **actively opposed** to this bill in its present form. The bill is identical with S. 1140, 82d Congress, and like that measure is based on the medical recommendations of the Hoover Commission. In June, 1950, the House of Delegates adopted a resolution recommending the establishment of a separate Department of Health, exclusive of the medical services of the armed forces and the Veterans Administration. Although the establishment of a separate Department of Health was again endorsed in December, 1952, the composition suggested in June, 1950, by the House of Delegates has not been changed.

It is the belief of the Association that the transfer of the armed forces hospital system in time of war or peace could disrupt the medical career system of the armed forces and thereby seriously endanger the security of the nation. With respect to the medical program of the Veterans Administration, it is felt that the combining of a huge hospital program of this type with the United States Public Health Service could quite conceivably result in a relegation of the preventive health aspects of such a department to a secondary role.

It is the belief of the Association that the best way to institute governmental economy in the use of funds and medical manpower is: (*a*) to obtain a clear congressional definition of the extent of the government's responsibility for furnishing medical care with particular reference to the treatment of veterans with non-service-connected disabilities and the dependents of service personnel and (*b*) to establish a federal board of hospitalization.

H. R. 303 (identical bill: H. R. 1057)

Introduced by Mr. Judd of Minnesota and referred to the House of Representatives Committee on Interior and Insular Affairs.

Digest of Bill.—The bill would provide for the transfer of the functions, responsibilities, and duties of the Department of the Interior and the Bureau of Indian Affairs relating to the health and hospitalization of Indians to the United States Public Health Service.

Association Position.—The Association **actively endorses** this proposal as it did during the 82d Congress. It is the belief of the Association that there is a great need for an improvement in the health facilities and hospitals of the Indian Service. The present setup makes it impossible to attract a sufficient number of physicians and allied health personnel. It is believed that the transfer of such facilities to the United States Public Health Service would result in improved facilities and a higher degree of medical care for the beneficiaries of this program.

FEDERAL MEDICAL LEGISLATION

Tax Relief for Permanently and Totally Disabled

Congressman Rhodes (D., Pa.) in H. R. 1725 proposes an additional income tax exemption and deduction, for tax purposes, for those who are permanently disabled, up to $600.00 per year, and an additional exemption of $600.00 for each dependent who is permanently and totally disabled. This measure is similar to H. R. 251, proposed by Congressman Elliott (D., Ala.), which has been previously reported. Both measures were referred to the Ways and Means Committee.

Permanent and Total Disability Insurance

The Social Security Act would be amended by H. R. 2150, introduced by Congressman Van Zandt (R., Pa.), providing for disabled persons money benefits equal to retirement benefits. This bill does not provide a definition of disability nor any method by which disability would be determined. Congressman Bailey (D., W. Va.), in H. R. 2070 proposes similar benefits for permanently and totally disabled persons. The requirement for the determination of disability would be laid down by the Administrator of the Federal Security Agency. The refusal to accept rehabilitation services could cause forfeiture of said benefits. Both of these measures have been referred to the House Ways and Means Committee.

Making Operative the Waiver of Premiums

Congressman Elliott (D., Ala.), in H. R. 2087 proposes to make operative the waiver of premiums provision for permanently and totally disabled persons included in the Social Security Act amendments of 1952. This bill is identical with H. R. 9, proposed by Congressman Dingell (D., Mich.), which has been previously reported. This measure was referred to the House Ways and Means Committee.

Medical Expense Deductions

Congressman Dague (R., Pa.) proposes in H. R. 2243 to remove the 5% limit on tax deductions for medical expenses in computing income tax. He proposes to allow all individual medical expenses up to $1,250.00, annually, to be deducted. The present law now permits deductions for the cost of medical care (including health insurance premiums) in excess of 5% of taxable income. This measure was referred to the Ways and Means Committee.

Extending Presumption-of-Service-Connection for Pulmonary Tuberculosis

The presumption of service connection for pulmonary tuberculosis would be lengthened from the present three years to seven years from the date of separation from active service, in a measure (H. R. 2097) submitted by Congressman Hagen (R., Minn.). This was referred to the Committee on Veterans' Affairs.

Agency for the Handicapped

Congressman Hagen (R., Minn.) proposes to establish an independent federal agency for the handicapped, housed in the Department of Labor and transferring to it the Office of Vocational Rehabilitation from the Federal Security Agency. Among its provisions are (*a*) the payment through the states of a $60.00-per-month-plus pension to all handicapped persons for whom rehabilitation is not feasible; (*b*) the establishment of a federal revolving loan fund to assist in the financing of state rehabilitation programs; and (*c*) the establishment of new divisions for the handicapped within the United States Civil Service Commission and United States Employment Service. Congressman Hagen's measure (H. R. 2096) is identical with five other bills introduced the same day: H. R. 2147 (Tollefson, R., Wash.), H. R. 2149 (Van Zandt, R., Pa.), H. R. 2300 (Rhodes, D., Pa.), H. R. 2342 (Wier, D., Minn.), and H. R. 2346 (Withrow, R., Wis.). These measures were all referred to the Committee on Education and Labor.

Cancer Research

Congressman Elliott (D., Ala.) would authorize and request the President to undertake a "supreme endeavor to discover a means of curing and preventing cancer," by mobilizing the world's outstanding experts in this field. He would be authorized to spend one million dollars on this project. This measure (H. R. 2253) is identical with S. 188, previously proposed by Senator Neely (D., W. Va.) and H. R. 583 by Congressman Rooney (D., N. Y.) and was referred to the Committee on Foreign Affairs.

Establishment of a National Institute for Poliomyelitis

Congressman Morrison (D., La.) would authorize, in H. R. 2290, an Institute of Research on Poliomyelitis in the National Institutes of Health of the Public Health Service. An appropriation of 5 million dollars would be authorized by this act. The measure was referred to the Committee on Interstate and Foreign Commerce.

To Authorize the Army Medical Graduate School to Award Degrees

Congressman Short (R., Mo.), chairman of the Armed Services Committee, proposes, in H. R. 2329, to authorize the commandant of the Army Medical Service Graduate School, now located at Walter Reed Hospital, Washington, D. C., to award the Master of Science and Doctor of Science degrees upon the successful completion of courses in "medicine, dentistry, veterinary medicine and the biological sciences involved in health services." Graduate work would have to meet "standards of the Association of American Medical Colleges and appropriate other accrediting agencies." This measure was referred to the Committee on Armed Services.

The summary of federal legislation was prepared by the Washington Office of the American Medical Association and the summary of state legislation by the Bureau of Legal Medicine and Legislation.

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STATE MEDICAL LEGISLATION

Arizona

Bills Introduced.—H. 24, proposes the enactment of an **optometry practice act.** H. 52, proposes that every county hospital shall maintain **24-hour daily emergency service** and proposes further that it shall be against public policy to deny or delay necessary aid to anyone because of lack of ability to pay the costs thereof. H. 53, proposes an appropriation for the purpose of setting up and maintaining in cooperation with the federal government a statewide **preventive mental health program.** H. 102, proposes to make it unlawful for any employer to require an employee or applicant for employment to pay the **cost of a medical examination** or of furnishing records required by the employer as a condition of employment. H. 134, proposes to authorize the state department of health to **license, regulate, inspect, and supervise** sanatoriums, rest-homes, **nursing homes,** homes for aged and infirm persons, and related institutions which render nursing care but which do not receive acutely ill patients or patients such as surgical or maternity cases. H. 138, proposes the creation of an Arizona **commission on alcoholism** to initiate, develop and administer a program for the study, treatment, and rehabilitation of resident alcoholics. H. 141, proposes to require coroners to summon qualified doctors of medicine to examine a deceased body and if necessary to conduct an **autopsy** thereon and to give an opinion to the medical cause of death unless such medical examination has already been performed and such opinion has already been rendered. H. 142, proposes to require **hospitals to report** to the coroner all information they have regarding hospital deaths where there is no attending physician and proposes to require **physicians to refuse to sign a death certificate** in any instances in which the death was caused by other than natural causes.

Arkansas

Bills Introduced.—H. 134, proposes the creation of a **board of registered physical therapists** and defines physical therapy as the treatment of a bodily or mental condition of any person by the use of the physical, chemical, and other properties of heat, light, electricity, water, massage, and active and passive exercise and all rehabilitation procedures. The use of roentgen rays and radium for diagnostic and therapeutic purposes and the use of electricity for surgical purposes, including cauterization, are not authorized by the proposal. H. 164, proposes that every person operating a common carrier railroad in the state shall equip each locomotive engine and caboose used in train or yard switching service and every passenger car used in passenger service with a **first aid kit** of a type to be approved by the public health service and the Labor Commissioner. H. 220, to amend the penalty clause of the **narcotics** act, proposes that upon conviction of a second or subsequent offense the imposition or execution of sentence shall not be suspended and probation shall not be granted. H. 268 and H. 363, propose the creation of a **board of psychiatric technicians** and defines a psychiatric technician as (1) one who performs any professional service requiring the application of principles of psychiatric treatment based on biological, physical, and social sciences, such as responsible supervision of a patient requiring skill and observation of symptoms and reactions and the accurate recording of the facts and the carrying out of treatments and medications as prescribed by a licensed physician or psychiatrist and the application of such technicians' procedures as involve understanding of cause and effect in order to safeguard the life and health of a patient or (2) one who performs such duties as are required in the physical care of a patient and in carrying out medical orders as prescribed by a licensed physician or psychiatrist, requiring an understanding of psychiatric treatment but not requiring the professional service previously mentioned. H. 316, proposes to authorize the use of the **injunctive process** to prevent continued violations of the medical practice act. H. 322, proposes an appropriation to the **cancer** control commission.

California

Bills Introduced.—A. 1378, to amend the Business and Professions Code relating to the healing arts, proposes that examinations for the physician's and surgeon's certificate may be conducted by the board under a uniform examination system and for that purpose the board may make such arrangements with the **National Board of Medical Examination** as may in its discretion be desirable. A. 2243, proposes certain amendments to the **narcotic drug act,** among which is the proposal that any person convicted for a second or subsequent time shall be denied probation or suspension of any portion of the sentence. Possession of any hypodermic needle, syringe contrivance, or paraphernalia that can be used to administer any narcotic unlawfully to human being shall be a misdemeanor, except as to those persons who lawfully obtain a narcotic drug and use such hypodermic needle or syringe for self-injection of the drug. A. 2244, to amend the law relating to **narcotic** drugs proposes that any person who commits a second offense against the act which involves a minor shall not be eligible for parole until he has served the minimum sentence and, for a third offense shall be imprisoned for life without possibility of parole. A. 2303, proposes a new **definition for the practice of chiropractic** whereby chiropractic is defined as the science of determination and adjustment of the articulations or joints of the body, especially the spine, to relieve pressure on impinged nerves which may cause pain or deranged bodily functions and also the right to use all necessary mechanical and hygienic and sanitary measures incident to the care of the body, insofar as it does not violate the principles of chiropractic, but shall not authorize the practice of medicine, surgery, osteopathy, dentistry, or optometry or the use of any drug or medicine now or hereafter included in materia medica. A. 2752, to amend the law relating to chiropractic, proposes that every person practicing the healing arts using the **title "doctor" or the letters or prefix "Dr."** must designate the particular license he holds in this state, unless he holds a physician's and surgeon's certificate. A. 2776, proposes the creation of an **examining board in clinical psychology.** A person practices clinical psychology under this proposal who holds himself out to the public as a clinical psychologist or who for the purpose of treating or alleviating emotional disorders or maladjustments utilizes psychodiagnostic or any of the following techniques: 1. the evaluation, appraisal, or classification of mental ability, personality characteristics, or personal or interpersonal maladjustments; 2. psychological reeducation, readjustment, guidance, or counseling; and 3. psychotherapy. A. 3104, to amend the Business and Professions Code, proposes the creation of **a board of naturopathic examiners.** The naturopathic certificate would authorize the holder to diagnose and to treat all human ailments and abnormalities by the use of such forces and substances as light, air, water, clay, heat, rest, diet, herbs, roots, barks, electricity, manipulative therapy, suggestive therapeutics, magnetism, and physical and mental culture, but would not be construed to allow, permit, or license those practicing naturopathy to perform surgery or prescribe those narcotics or drugs whereby a prescription was required, but nothing would prevent the use of local analgesic when necessary to prevent suffering during any treatment authorized. A. 3138, proposes provisions for the enactment of a **prepaid health service** system for the people of the state. A. 3288, proposes that no person shall add **fluorine or fluorine compounds** to any pond, stream, reservoir, or any other source of water used or intended to be used for human consumption or for domestic purposes. A. 3308, proposes to **exempt from the restriction against the sale of hypodermic needles** or hypodermic syringes, sales of such facilities to persons suffering from diabetes or asthma. S. 945, proposes the creation of a California **commission on alcoholism** to study and investigate the economic and social problems involved in alcoholism. S. 1169 and S. 1170, propose amendments to the unemployment insurance act setting up or providing for a catastrophe health reinsurance. S. 1349, to amend the Business and Professions Code, relating to the **use of fictitious names by licentiates,** proposes that holders of any certificate issued may practice within the scope of their certificates in partnerships or groups; provided, that after Sept. 30, 1953, no such partnership or group shall be formed or organized under any name except a name that includes the surname of one or more members of the partnership or group, followed by the words "Medical Group." S. 1770, proposes that no person, corporation, or political subdivision of the state or other governmental agencies shall operate, establish, manage, conduct, or maintain a clinic or hold out, represent, or advertise by any means, **the operation of a clinic without first obtaining a license from the state department of public health.** The term clinic is defined by the proposal as meaning a place, establishment, or institution which operates under the name or title clinic, dispensary, health center, medical center, or any other word or phrase of like or similar import, either independently or in connection with any other purpose for the purpose of furnishing at the place, establishment or institution advice, diagnosis, treatment, medicines, drugs, appliances, or apparatus to persons not residing or confined in the place, establishment, or institution and who are afflicted with bodily or mental disease or injury. S. 1775, proposes to make it **unlawful to remove and not replace any organ or organs from a dead body** in the performance of an autopsy without written approval of certain enumerated persons. The proposal also requires an attending physician who is unable to state the cause of death to so inform the coroner within 15 hours after the death. S. 1797, proposes the creation of **a board of practical nurse examiners** for the purpose of regulating the licensing courses, study, training, and practice of practical nurses. S. 1894, proposes that no person shall practice by the use of massage, therapeutic exercise, or by the use of the physical, chemical, and other properties of electricity, heat, light or water, except upon **written prescription or under the personal supervision of a duly licensed practitioner** of one of the healing arts having at the time of so doing a valid, unrevoked certificate from the board of medical examiners or the board of osteopathic examiners or the board of chiropractic examiners or the board of dental examiners.

Connecticut

Bills Introduced.—H. 227, proposes that the health officer of each municipality having a population of 50,000 or more shall, weekly, designate two physicians licensed to practice in the state and residing in the municipality to be on call at all times to provide **emergency medical service.** Any resident of the municipality who through accident or acute illness is in need of immediate medical care and is unable to obtain it from a physician of his own choice, may inquire of the police department of the municipality the name and telephone number of either of the physicians so designated and any physician rendering such emergency service shall charge the patient therefor at the rate he receives for services of a similar type from his usual patients. H. 285, proposes the establishment of a **department of mental health** with an executive head called the commissioner of mental health who shall be responsible for the over-all supervision and direction of mental hospitals and for developing and maintaining programs and policies concerning the care and treatment of the mentally ill. H. 411, proposes that before **bodies may be removed to Yale Department of Medicine** permission shall be obtained from the medical examiner of the town where the death occurred. S. 428, proposes to authorize the establishment of school psychological and school social work services and defines **school psychologists** as persons trained in clinical and educational psychology and holding valid certificates as school psychologists issued by the state board of education. S. 521, to amend the workmen's compensation act, proposes that in the event of the failure of the employer to provide a physician or surgeon or medical, surgical, or nursing service, **the injured employee may provide** such **physician or surgeon** or service at the expense of the employer. S. 694, to amend the workmen's compensation act, proposes to authorize an **employee to select** for treatment any **physician or surgeon** licensed to practice in the state of Connecticut at the expense of the employer. S. 723, proposes to provide for an **ambulance commission** to regulate the use and equipment of ambulances.

Delaware

Bill Introduced.—H. 22, proposes an appropriation to the state board of health to be used for **services for the crippled children** of the state for case finding, medical, surgical and medical social service, hospitalization, rehabilitation, and follow-up in a cooperative program between the Governor Bacon Health Center and the state board of health.

Maine

Bills Introduced.—H. 334, to amend the law relating to **narcotic drugs,** proposes that whoever sells, gives, administers, or conspires to sell, give, or administer or dispense narcotic drugs to persons under the age of 16 years, shall be punished by imprisonment for not more than 20 years, and in addition by a fine of not more than $1,000. H. 355, to amend the **premarital examination** law, proposes to require the physician's certificate to contain a statement setting forth the **blood type** of the applicant. H. 432, proposes the creation of a **state board of examiners for the certification of psychologists.** The proposal does not define psychologists but provides that nothing in the act would authorize any person to engage in any manner in the practice of medicine.

New Jersey

Bills Introduced.—A. 252, proposes to require **physicians to report** to the state department of health, any communicable disease required by law or the state sanitary code to be reported. A. 265, to amend the premarital examination law, proposes that the **physician's certificate** may be signed by a physician licensed to practice medicine and surgery in all its branches in New Jersey or in any other State or territory or by a commissioned medical officer on active duty with the armed forces or the Public Health Service.

New Mexico

Bills Introduced.—H. 18, proposes to require each **applicant for a marriage license** to present a certificate from a licensed physician certifying that such applicant is free from syphilis and other venereal disease in a communicable form. H. 89, proposes to authorize the New Mexico Department of Public Health to **license all public and private institutions** which affect the public safety, health and welfare in accordance with rules and regulations promulgated from time to time by the department. H. 164, proposes to authorize the **state board of examiners in basic sciences** to waive its examination and to authorize the **state board of medical examiners** to **issue temporary licenses** to practice medicine and surgery in the event of an emergency which is defined as the inability of the local physicians and surgeons in any community to meet conditions affecting the public health that may arise suddenly and unexpectedly by reason of fire, flood, explosion, epidemic, pestilence, or like disaster, or through some unusual occurrence or condition which, in the judgment of a majority of the board, constitute an emergency. Such temporary licenses or permits may also be issued to physicians while temporarily in attendance at an organized youth camp or school and they are valid for a period of not to exceed three months from the date of issuance. S. 18, relating to **compulsory vaccination,** proposes that the act shall not apply to children whose parents are bona fide members of a **recognized religious organization** whose religious teachings are contrary to the requirement of the act.

North Dakota

Bills Introduced.—H. 803, proposes to make it unlawful for any employer to require an employee or prospective employee to **take a medical examination** or furnish any medical records as a condition of such employment. H. 830, relating to the duties of county coroners, proposes to authorize and order an **autopsy** when and where he deems it necessary.

Ohio

Bill Introduced.—H. J. R. 10, proposes the creation of a joint committee to investigate, study and analyze all data relating to the detection, apprehension, treatment, quarantine, and rehabilitation of **sex deviates or sex psychopaths.**

Oregon

Bills Introduced.—H. 56, proposes that no person shall conduct a business as a manufacturer or wholesaler of drugs or medicines without first obtaining a permit so to do from the **state board of pharmacy.** H. 93, proposes to exempt from the massage act, **physical therapy or massage** carried on under the direction of any physician duly licensed to practice his profession in the state. H. 190, proposes that every person operating a **common carrier shall maintain and provide a first-aid kit** of a type approved by the labor commissioner to be installed and maintained in such places and on such carrier equipment as may be prescribed in rules and regulations. S. 76, to amend the law relating to the practice of osteopathy, proposes that every person receiving **a license to practice osteopathy and surgery** shall file it, or a copy thereof, with the county clerk in the county where he resides. S. 78, to amend the law relating to **osteopathy,** proposes that an adjudication of insanity or mental disease shall constitute grounds for revocation of a license. It is also **grounds for revocation of a license** to procure or aid in procuring an abortion unless such is done for the relief of a woman whose health appears imperiled because of her pregnant condition and after due consultation with another duly licensed osteopath or medical physician and surgeon who is not an associate or relative of the osteopathic physician and surgeon and agrees that an abortion is necessary. The record of the consultation must be in writing maintained in the hospital where the consultation occurred or in the offices of all the physicians and surgeons participating in the consultation for a period of at least three years after the date of abortion. S. 80, to amend the law relating to the practice of the healing arts, proposes that upon the death of any person duly licensed by any board empowered to license a practitioner of the healing arts, the executor of his estate or his heirs, associates, or partners may retain **the use of the deceased's name** where it appears other than as a part of an assumed name, for no more than one year after the death of such person or until his estate is settled, whichever is later. S. 85, to amend the law relating to **premarital examinations,** proposes, among other things, that the physician's certificate shall certify freedom from syphilis, epilepsy, feeble-mindedness, mental illness, drug addiction, and/or chronic alcoholism. S. 86, to amend the medical practice act, proposes to eliminate from a **list of examination subjects,** subjects of chemistry, therapeutics, and diseases of women and to add the subjects of biochemistry, gynecology, pharmacology, pathology, bacteriology, public health and preventive medicine, medical jurisprudence, and pediatrics.

Rhode Island

Bill Introduced.—H. 543, proposes the appointment of a special commission to make a study of the **feasibility of setting up a medical school at the University of Rhode Island.**

South Carolina

Bills Introduced.—H. 1023, proposes the enactment of a uniform narcotic drug act, and **defines a physician** therein as a person licensed by the state board of medical examiners to practice medicine in the state and further licensed by the board of health to use narcotic drugs in connection with such practice. S. 29, proposes to repeal the law relating to the practice of **physical therapy.**

South Dakota

Bills Introduced.—H. 633, to amend the law relating to city hospitals, proposes that the city and officers of the city in the establishment, maintenance and operation of the city hospital and medical dispensaries **shall not discriminate between practitioners of the various healing arts** and every duly licensed doctor shall have the right to and shall be entitled to practice his profession in said hospitals or medical dispensaries. S. 132, to amend the law relating to the practice of medicine and osteopathy, proposes to require **licensed physicians or surgeons and licensed osteopathic physicians to annually register** with the state board of medical and osteopathic examiners and proposes to authorize the board to revoke the license of any licentiate failing to pay such registration fee and to annually renew his license. S. 178, proposes the establishment of a **state naturopathic board of examiners** and defines naturopathy as that philosophy and system of the healing art embracing prevention, diagnosis, and the care of and treatment of human ills, diseases, traumas, deformities, and functions by the use of the several properties of air, light, heat, and diet, including essential mineral and vitamin elements; herbs, in their natural form; cold, water, mechanics, electricity, instrumentation, manipulation, and psychology, excluding major surgery, obstetrics, x-ray, radium for therapeutic purposes, and the treatment of communicable diseases.

Washington

Bills Introduced.—H. 90, proposes that any **hospital** whether organized for profit or not shall be **liable for damages to or loss of property or personal injury or death** caused by the negligent or wrongful act or omission of the hospital or any employee or agent of the hospital while acting within the scope of his employment. H. 171, proposes the creation of a **Washington state naturopathic board** and defines naturopathy as the art of healing by natural methods as taught in recognized and accredited school of naturopathy and excludes the use of major surgery. The proposal defines minor surgery as that part of surgery including procedures not involving serious hazard to life and usually not requiring general anesthesia; examples are bandaging, application of splints and casts, suturing of superficial lacerations, excisions, incision, and drainage of superficial structures. S. 91, to amend the law relating to autopsies and postmortem examinations, proposes that **a coroner may make or cause to be made by a competent pathologist, toxicologist, or physician an autopsy or postmortem** examination in all cases in which death occurred by violence or from unknown, obscure, or suspicious circumstances or where an inquest is to be held or where death occurred in prison, jail, or while serving a sentence or where death occurred suddenly or without medical attendance or from unnatural causes or under circumstances indicating the possibility of death by the hand of the deceased or through the instrumentality of some other person. S. 130, proposes the creation of a **state board of massage** and defines massage as the method, art, or science of treating the human body for hygienic or remedial purposes exclusively by rubbing, stroking, kneading, tapping, or rolling the same with the hands or by rubbing, stroking, kneading, tapping, or rolling the body with any other agency or instrumentality for the purposes of relieving, alleviating, and reducing afflicted parts thereof; in connection with said massage treatments, such appliances, equipment, and aids as heat lamps, electric vibrators, electric light cabinets, or any form of electric cabinets designed to produce heat, steam baths, either by cabinet or any methods of giving steam baths, mineral baths either as complete or partial baths, either by tub, shower, or otherwise, may be used. Such baths may be administered either hot or cold and may be natural mineral water or by formula. Colonic irrigation may also be used.

Wisconsin

Bill Introduced.—S. 159, to amend the workmen's compensation act, proposes to give to an **employee the right to make a choice of his attending physician and specialist,** from a panel of physicians and specialists named by the employer.

THE NEW YORK ANNUAL MEETING

The meeting places in New York of two of the scientific sections were inadvertently omitted from the list published in the Feb. 21 issue of THE JOURNAL. Those sections and the hotel in which their meetings will be held are as follows:

Physical Medicine and Rehabilitation	New Yorker Hotel,
Diseases of the Chest	North Ballroom

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MEDICAL NEWS

CALIFORNIA

Postgraduate Courses.—Stanford University School of Medicine, San Francisco, will present the following full-day postgraduate courses in June: cardiology, June 15-19; general medicine, June 15-19; surgery and treatment of fractures and associated trauma, June 24-26; and general surgery, June 22-26. Fee for each course, $75. Programs will be available in March. Inquiries may be addressed to the Dean, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

Breakfast Club.—The Doctors' Breakfast Club of the San Fernando Valley Branch of the Los Angeles County Medical Association, which meets Wednesdays at 8 a. m. at St. Joseph's Hospital in Burbank, will hear the following lectures by physicians in March:

March 4, Orthopedic Emergencies, Walter Scott, Los Angeles.
March 11, Hemangiomata and Birth Marks, Allyn J. McDowell, North Hollywood.
March 18, Recognition of Recurrent Hepatitis, Arthur A. Kirchner, Los Angeles.
March 25, Collagen Diseases, Richard O. Myers, Los Angeles.

Alumni Convention.—The Alumni Association, School of Medicine of the College of Medical Evangelists, Los Angeles, will hold its annual alumni postgraduate convention at the Ambassador Hotel, Los Angeles, March 8-10. Panel discussions will be presented on peptic ulcer, the physician's public relations, low back pain, and common errors in diagnosis. Motion pictures will be shown. Following the convention there will be a three day refresher course program at the Los Angeles campus of the college, for which postgraduate credit will be granted by the American Academy of General Practice. Six conference clinics, one each morning and afternoon, will be presented as a new feature at the assembly. Inquiries should be addressed to Evelyn R. Strachan, Executive Secretary, Alumni Association, School of Medicine, College of Medical Evangelists, 316 N. Bailey St., Los Angeles 33.

COLORADO

Thoracic Surgery Seminar.—A review of recent developments in thoracic and cardiac surgery will be presented by the staff of the Fitzsimons Army Hospital, Denver, and the department of surgery of the University of Colorado faculty, March 2-6 in the Bushnell Conference Room, Fitzsimons Army Hospital. This is a full-time course. Physicians are invited to attend without fee. Registration is limited.

CONNECTICUT

Society News.—On March 2 at 8:30 p. m. the Hartford Medical Society, meeting in the Hunt Memorial Building, will have as guest speaker Dr. Jere W. Lord Jr., New York, who will talk on "Thromboembolic Disease." On March 16 Dr. Thaddeus S. Danowski, Pittsburgh, will discuss "Practical Considerations of Fluid Therapy."

GEORGIA

Society News.—The annual meeting of the Georgia Society of Ophthalmology and Otolaryngology will be held March 6-7 at the General Oglethorpe Hotel, Savannah. On otolaryngology the speakers will be: Drs. Louis H. Clerf, Philadelphia, Edmund P. Fowler Jr., New York, and Theodore E. Walsh, St. Louis. On ophthalmology the speakers will be: Drs. Peter C. Kronfeld, Chicago, Edmund B. Spaeth, Philadelphia, and Frank B. Walsh, Baltimore.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

ILLINOIS

Reportable Diseases.—According to the state department of public health the number of poliomyelitis cases recorded in Illinois in 1952 reached an all-time high of 3,931, exceeding by more than 1,000 the previous high of 2,910 cases in 1949. Among other major reportable diseases such as diphtheria, typhoid fever, and whooping cough, however, new record lows were set. Only 15 cases of diphtheria were reported in 1952 (28 in 1951); 41 cases of typhoid fever (57 in 1951); and 719 cases of whooping cough (1,452 in 1951). For the fifth consecutive year no smallpox was reported in Illinois.

Prematurity as Cause of Infant Mortality.—The state department of public health reports that in 1952 more than 200,000 babies were born in the state, setting an all-time high record, and that the death rate among babies under 1 year of age fell to a new low of 25.2 per 1,000 live births. Of the 5,015 infant deaths reported in Illinois last year, about 75% were among infants less than 1 month old. Further analysis of the records revealed prematurity as the greatest single cause of death throughout the whole infant period. According to the annual report of the Bureau of Maternal and Child Health, 870 babies received care in the state's three premature centers during the fiscal year ended June 30, 1952. In all, 599 babies were transported to the centers by way of incubator ambulance, coming from almost every county.

Chicago

Lecture on Infertility.—Under the auspices of Alpha Epsilon Iota fraternity, Dr. Therese F. Benedek, training and research analyst, Institute for Psychoanalysis, will discuss "Problems of Infertility," March 4, 1 p. m., in room 221 DMP, at the University of Illinois, 1853 W. Polk St.

Radiation Physics.—In its course in radiation physics the Graduate Division of Northwestern University Medical School offers the following lectures by Robert Landauer, Ph.D., to be given from 7 to 9 p. m. in room 1276, Gilmer Hall, Ward Memorial Building, 303 E. Chicago Ave.:

March 2, Radium Physics.
March 9, Problems in Radium Dosage.
March 23, Artificial Radioactivity.
March 26, Problems in Dosage of Isotopes.
March 30, Supervoltage Generators.

Dr. Snapper Appointed Professor of Medicine.—Dr. Isidore Snapper, formerly clinical professor of medicine at Columbia University College of Physicians and Surgeons, New York, has been appointed professor of medicine at the Chicago Medical School. Dr. Snapper, who also served as director of medical education at Mount Sinai Hospital in New York, will continue as consulting physician to that organization, director of medical education at Cook County Hospital, Chicago, and professor of medicine in its graduate school. Dr. Snapper came to this country in 1944. He had previously been affiliated with the University of Amsterdam and Peiping Union Medical College, where he was professor of medicine from 1938 until he was captured by the Japanese. During the remainder of the war he served as Netherlands' delegate to the United Nations Food Conference, as a consultant to the Office of the Surgeon General in Washington, D. C., and as a medical advisor to the Commissioners of the Netherlands East Indies.

KENTUCKY

Society Honors Dr. Hafer.—Dr. Lewis C. Hafer, Hebron, was recently awarded a distinguished service certificate by the Campbell-Kenton Medical Society for his 50 years' contribution to medicine and the community since his graduation. Dr. Hafer is a former vice-president and councilor of the Kentucky State Medical Association and past president of the Campbell-Kenton society.

Rural Health Conference.—The second annual Kentucky Rural Health Conference will be held in Louisville March 11-12 at the Kentucky Hotel. The theme of the conference is "Following Through Back Home."

MARYLAND

Phi Delta Epsilon Lecture.—Homer W. Smith, Sc.D., professor of physiology, New York University College of Medicine, gave the annual Phi Delta Epsilon lecture at the University of Maryland School of Medicine, Baltimore, Feb. 17 on "The Development of Modern Renal Physiology."

Founder's Day Address.—Dr. Thomas McPherson Brown, professor of medicine, George Washington University School of Medicine, Washington, D. C., will deliver the annual Founder's Day address for Phi chapter of Phi Chi fraternity, March 5, 8 p. m., at the Bethesda Naval Officers' Club. Dr. Brown will discuss "The Patient as a Whole." Alumni of Phi Chi and interested physicians may obtain invitations from Curt Price, Editor, Phi of Phi Chi, 1335 H. St., N.W., Washington, D. C.

MASSACHUSETTS

Phi Delta Epsilon Lecture.—The Tufts College Medical School chapter of Phi Delta Epsilon fraternity will present its annual lecture March 4, 8 p. m., in the auditorium of the Beth Israel Hospital, Boston. Dr. Isidore Snapper, director of medical education, Cook County Hospital, Chicago, will speak on bone diseases. Physicians and medical students are invited.

Medical Institute Lectures.—For March, as part of its course in general medicine, the Postgraduate Medical Institute sponsored by the Massachusetts Medical Society offers Wednesday lectures (3-5 p. m.) by the following physicians:

March 4, (Boston Lying-In Hospital) Care of the Newborn and Management of Diseases of the Neonatal Period, Crawford H. Hinman, Boston, and James M. Baty and Stewart H. Clifford, Brookline.

March 11, (Boston City Hospital) Immunohematological Diseases, Joseph F. Ross, Frank H. Gardner, William B. Castle, Stuart C. Finch, and Mario Stefanini, Boston.

March 18, (Boston City Hospital) Neurological and Neurosurgical Emergencies, Joseph M. Foley, Charles A. Kane, and Bertram Selverstone, Boston.

March 25, (Children's Medical Center) Medical Aids for the Physically Handicapped, Augustus Thorndike, David S. Grice, and Eugene E. Record, Boston.

MICHIGAN

Cancer Manual for Public Schools.—"The Story of Cancer for High Schools," published by the Michigan State Medical Society Cancer Control Committee, with the cooperation and financial assistance of the state department of health and the Michigan Division of the American Cancer Society, has been distributed to all public and parochial high schools, junior colleges, and county normal schools in Michigan. The manual gives concise information regarding cancer and indicates ways in which cancer education can be integrated with other health teaching programs.

Industrial Health Day.—Michigan Industrial Health Day will be observed March 10 in the English Room, Sheraton-Cadillac Hotel, Detroit. The program will include the following presentations:

Burn Shock, Its Pathological Physiology and Treatment, Col. William H. Amspacher, MC, U. S. Army, Houston, Texas.
The Cardiac Patient in Industry, John G. Bielawski, Detroit.
Recent Advances in Surgery of Trauma, Joseph M. Dziob, Buffalo.
Hernia Repair, Louis T. Palumbo, Des Moines, Iowa.
Cerebral Vascular Accidents in Industry, Robert C. Bassett, Ann Arbor.

The evening program in the Grand Ballroom will be preceded by a dinner in honor of Dr. Earle A. Irvin, Detroit, president, Industrial Medical Association.

MISSISSIPPI

State Directory.—The Mississippi State Medical Association announces publication of its 1953 directory, which lists all physicians in Mississippi and designates members of the state society and the American Medical Association. Single copy price is $2, postage prepaid from the Executive Secretary, Mississippi State Medical Association, P. O. Box 1562, Jackson.

Emergency Medical Service Program.—To establish a uniform, definitive procedure for emergency medical service in medical civil defense and nonbelligerent disaster, the state emergency medical service committee is sponsoring a series of symposiums in each county society in Mississippi. The chairman, Dr. Lawrence W. Long, Jackson, heads a five man team, which presents papers on shock, resuscitation, penetrating wounds, burns (thermal and nuclear), and fractures. The committee has organized each county for medical service in disaster.

NEW YORK

Hospital News.—On March 8, 11 a. m., the staff of High Point Hospital, Port Chester, will discuss "The Psychoanalysis of Groups" under the leadership of Dr. Alexander Wolf. All members of the profession are invited.

Symposium on Air Pollution.—A symposium on air pollution and its control will be held at Wagner Memorial Lutheran College, Staten Island, March 7, 9 a. m. to 4:30 p. m., under the auspices of the department of bacteriology and public health of the college and the Borough President's Committee for Air Pollution Abatement. Interested persons are invited to attend. No fee will be charged.

Pediatric Symposium on Renal Function.—The Children's Hospital of Buffalo and the University of Buffalo School of Medicine will hold a symposium on renal function in infants and children at the Children's Hospital, March 2-3. Out-of-state participants will include Dr. Robert Berliner, Bethesda, Md., Dr. William E. Ehrich, Philadelphia, Dr. Walter Heymann, Cleveland, and Dr. Louis Weinstein, Boston. Members of the medical and allied professions are invited. For information write to: Department of Pediatrics, Children's Hospital, 219 Bryant St., Buffalo 22.

Hobby Show for Older Persons.—The Welfare and Health Council of New York City will hold its annual hobby show for older persons May 21-31 at Education Hall, American Museum of Natural History, 77th Street and Central Park West. Participation is open to any person, 60 years old or over, living within a radius of 60 miles of New York. The council hopes to awaken public interest in the creative potentialities of older persons. Entry blanks, which are to be returned no later than March 15, may be obtained from the council, 44 E. 23rd St., New York 10 (ALgonquin 4-5500). There is no fee either for entries or attendance.

New York City

Cushing's Syndrome.—On March 6 the division of neoplastic diseases, Montefiore Hospital, will present a lecture on "Metabolic Aspects of Cushing's Syndrome" by Dr. Ephraim Shorr, associate professor of medicine, Cornell University Medical College.

Radio Programs.—On March 5 the New York Academy of Medicine will present the following lectures on its FM postgraduate radio program:

Rulon W. Rawson, Hormonal Control of Neoplastic Disease.
William R. Delzell, Cancer of the Urinary Tract.

Visiting Scientist.—Dr. J. A. Weber, professor emeritus of anatomy at the University of Geneva, Switzerland, will spend several months as visiting research scientist at Manhattan State Hospital, where he will continue his studies on the synapse, with particular emphasis on its structure in brain biopsies of psychotic patients.

Lectures for General Practitioners.—In its Saturday morning seminar the Department of Health of the City of New York will present the following lectures in March:

March 7, Anesthesia and Analgesia in Obstetric Practice, Irving M. Pallin, Brooklyn.

March 14, Prolonged Labor: Causes, Management, and Sequelae, Donato A. D'Esopo, New York.

March 21, Office Management of Cardiac Arrythmias, Marsh McCall, New York.

March 28, Psychological Aspects of Pregnancy, Justin T. Callahan, New York; Psychological Aspects of Child Care, Harry Bakwin, New York.

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Meeting on Vitamins.—The National Vitamin Foundation, Inc., will hold its annual meeting March 4 at the Biltmore Hotel. The following program will be presented:

Newer Knowledge of the Metabolism of Tocopherols in Human Tissues, Karl E. Mason, Ph.D., Rochester, N. Y.

Studies on the Functions of Vitamin B_6, Earle W. McHenry, Ph.D., Toronto, Canada.

Vitamin A Metabolism in Health and Disease, Benjamin M. Kagan, Chicago.

Neuropathology in Vitamin B_{12} Deficiency, William F. Alexander, Ph.D., St. Louis.

Experimental Production of Niacin Deficiency with Emphasis on Liver Pathology, Max K. Horwitt, Ph.D., Elgin, Ill.

Folic Acid and Citrovorum Factor in Human Nutrition, William J. Darby, Nashville, Tenn.

Vitamin B_{12} and Antibiotics in Child Growth, Nevin S. Scrimshaw, Guatemala City, Guatemala.

Vitamin B_{12} as a Growth Factor in Undernourished Italian Children, Roberto Funaro, New York.

Nutrition in Pregnancy, Winslow T. Tompkins, Philadelphia.

NORTH CAROLINA

Diagnostic Measures in Office Practice.—The University of North Carolina School of Medicine, Chapel Hill, announces the first postgraduate medical course to be given at the new North Carolina Memorial Hospital: an intensive program on diagnostic and therapeutic measures applicable to office practice, March 4-6. Information may be obtained from Dr. William P. Richardson, assistant dean for continuation education, University of North Carolina School of Medicine, Chapel Hill.

Personal.—The Medical Department of the Ecusta Paper Corporation, Pisgah Forest, recently sponsored a meeting for the regional chapter of the Society for the Advancement of Management, at which "The Value of Medical Maintenance for Industrial Workers" was discussed by Dr. MacRoy Gasque, medical director of the corporation.——Dr. Wilburt C. Davison, dean of the Duke University School of Medicine, Durham, was honored when associates, students, and former house officers presented him with a bound certificate at a testimonial dinner for his "significant accomplishments and many services to pediatric education."

OKLAHOMA

Training in Anesthesiology.—The department of anesthesia of the University Hospitals, Oklahoma City, is conducting a postgraduate training program for physicians. There are no formal classes. The individual physician is given clinical instruction in any anesthetic techniques in which he is interested, with sidelights on premedication, treatment of complications, related physiology and pharmacology, and other pertinent subjects. This course, designed primarily for physicians in smaller communities, is offered for any period of time the candidate can afford to spend, the schedule being adapted to the convenience of the physician. There is no tuition fee. Physicians interested should write to Dr. Howard A. Bennett, Chairman, Department of Anesthesia, University Hospitals, Oklahoma City 4.

TENNESSEE

Postgraduate Program in Gynecology.—The University of Tennessee Medical Units Postgraduate Department, Memphis, has scheduled a three day program in obstetric complications and gynecologic procedures for mid-south physicians March 11-13. The program, offered in cooperation with the John Gaston Hospital, teaching facility of the University of Tennessee College of Medicine, will be presented under the direction of Dr. Frank E. Whitacre, chief of the Division of Obstetrics and Gynecology. Information may be obtained from the postgraduate department of the university at 4 S. Dunlap, Memphis.

Dr. Parker Returns to North Carolina.—Dr. Joseph B. Parker Jr., associate professor of psychiatry at the University of Tennessee College of Medicine, Memphis, has resigned to assume the same rank at Duke University School of Medicine, Durham, N. C., where he was formerly an instructor in neuropsychiatry. He will also be chief of psychiatric service at the new Duke-affiliated Veterans Administration training and research hospital. Dr. Parker served as a lieutenant commander in the U. S. Navy Medical Corps during World War II. He joined the staff of Gailor Memorial Psychiatric Hospital in September, 1949, and has been director of its Child Guidance Clinic since August, 1950.

TEXAS

Audit of Health Needs.—After a three year audit of its needs for better community health by the citizens of Houston and Harris County, Texas, the health council has printed its findings in a booklet, "Blueprint for Health." Among the recommendations of the committee of the council, which explored hospitals, nursing homes, and related facilities, are (1) the addition of 1,000 beds for the care of patients with chronic diseases in the various hospitals of the community and (2) immediate development of a home care plan under the direction of Jefferson Davis Hospital, Houston, to help many convalescent and chronically ill patients remain in their own homes by providing medical nursing and social services. Copies of "Blueprint for Health" are available for $1.25 from the Community Council, 1209½ Capitol, Houston 2.

UTAH

Memorial Fund.—A fund dedicated in honor of Dr. James Arlo Nuttall has been initiated by his classmates. Dr. Nuttall died Dec. 23, 1952, aged 33, in Kamas, where he was a general practitioner. Contributions are being received by Mrs. Florence Strong, secretary to the dean at the offices of the University of Utah College of Medicine, Salt Lake City. Unless the donor requests otherwise, the money will be used to purchase new books and journals for the library of the college of medicine. Each book will bear a bookplate, with an inscription designating it as a gift in memory of Dr. Nuttall.

VIRGINIA

Tuberculosis Study.—Dr. John T. T. Hundley, Lynchburg, immediate past president of the Medical Society of Virginia, will serve as chairman of a special 150 member committee to evaluate the 1952 "Study of Tuberculosis in Virginia." Dr. Roscoe P. Kandle, former field director of the American Public Health Association, New York, who has been directing the state-wide survey, will prepare recommendations for an improved tuberculosis control program in the state. Dr. Ennion S. Williams, Richmond, heads an 11 man steering committee for the study.

WISCONSIN

Personal.—Dr. Raymond H. Evers, superintendent and medical director of the Rocky Knoll Sanatorium, Plymouth, was reelected president of the Wisconsin Sanatorium Superintendents Association.——Dr. Archibald M. Ford, coroner of St. Croix County since 1932, was recently honored by the State Medical Society of Wisconsin with the award of a gold pin and a certificate in recognition of his 50 years as a physician.

Sherrington Lecture.—The Sherrington Society of the University of Wisconsin recently sponsored the third annual Sherrington lecture by Dr. Macdonald Critchley, dean, Institute of Neurology, National Hospital, Queen Square, London, England, who spoke on "Tactile Thought, with Special Reference to the Blind." Dr. Critchley also gave a clinical neurological demonstration under the auspices of the medical school.

Orthopedic Field Clinics.—These clinics are conducted by the Bureau for Handicapped Children, state department of public instruction, for persons under 21 years of age who come within the state's definition of a crippled child. Referrals should be made by the family physician, but, when this is not feasible, arrangements may be made by writing to the bureau, room 146 North, State Capitol, Madison 2. Unless otherwise directed, forms for referral may be obtained from the bureau and should be requested in advance of the clinic date. Parents and physicians are invited to attend with the child. The following schedule has been arranged for March: Kenosha, March 4, 5; Racine, March 12, 13; Green Bay, March 19, 20; and Eau Claire, March 26, 27.

GENERAL

Multiple Sclerosis Drive.—The National Multiple Sclerosis Society, 270 Park Ave., New York, has set a national fund-raising goal of $1,200,000 and will launch its drive March 2, with the cooperation of 21 chapters throughout the country. The society, formed six years ago, has supported 26 research projects in various medical centers and has established 8 research and treatment clinics. The goal is to expand the society's program of research, clinics, rehabilitation, and service throughout the nation.

Surgical Congress in Louisville.—The Southeastern Surgical Congress will meet at the Brown Hotel in Louisville March 9-12 under the presidency of Dr. Harry L. Claud, Washington, D. C., who will deliver the presidential address on "The Challenge of the Internship and Residency Problem" at 10:50 a. m. Monday. Forty-nine papers will be presented, and at 4:10 p. m. Wednesday there will be a symposium on "Postoperative Complications," for which Dr. J. Duffy Hancock, Louisville, will serve as moderator. The banquet will be held at 8 p. m. Wednesday.

Central Surgical Association.—The 10th annual meeting of the Central Surgical Association, which will be held at the Drake Hotel, Chicago, March 6-7, under the presidency of Dr. R. Kennedy Gilchrist, Chicago, will follow an invitation clinic day March 5 at Cook County and Presbyterian hospitals. On Friday and Saturday 36 papers will be presented. The annual dinner, which will be held at 7:45 p. m. Friday, will be preceded by a reception and cocktails at 6:30 p. m. The presidential address "Is a Scientific Program Sufficient?" will be delivered at the luncheon, Friday, 12:30 p. m.

Influenza.—According to the U. S. Public Health Service, an increase of 20% occurred in the number of deaths from influenza and pneumonia reported by 58 cities for the week ended Jan. 31, a total of 554 deaths being reported. Physicians in 70 counties and 8 cities in Virginia reported more than 14,000 cases of an influenza-like infection. This, in some instances, represented an accumulation of cases for the whole period of high incidence rather than cases actually occurring during the week. In its statement for the week ended Feb. 7, the National Office of Vital Statistics noted a decline in incidence in Arkansas, Washington, Louisiana, and parts of Alaska.

Sioux Valley Meeting.—The 57th annual meeting of the Sioux Valley Medical Association was held at the Martin Hotel, Sioux City, Iowa, Feb. 24-26, under the presidency of Dr. Walter B. Wells, Jackson, Minn. F. E. Kelsey, Ph.D., Vermillion, S. D., opened the sessions on Tuesday evening with a discussion on "Medical Applications of Radioactive Isotopes." Other out-of-state speakers included Dr. Asher A. White, Minneapolis, who spoke on "Allergy in General Practice" and "Fallacy in Allergy"; Dr. Gideon O. Proud, Kansas City, Kan., who discussed "Safe and Dangerous Ears"; and Dr. M. Edward Davis, Chicago, whose topics were "Management of the Placental Stage and Post-Partum Hemorrhage" and "An Intelligent Study of the Sterile Couple." A moving picture on "Resuscitation of Patients Who Died in the Operating Room," produced by Dr. Claude S. Beck, Cleveland, opened the Wednesday morning session.

Surgeons Meet in Boston.—The American College of Surgeons will hold a sectional meeting in Boston, March 2-5 at the Hotel Statler, during which surgical clinics will be conducted in 19 hospitals. Symposiums will be presented on trauma, cancer, children's surgery, tonsils and adenoids, the industrial back, reconstruction of the hip, and management of patients with uterine fibroids. There will be panel discussions on surgery of the biliary tract, antibiotic therapy, peripheral vascular disease, traumatic injuries of the face, surgery of renal tumors and of the adrenal, management of bladder and ureteral injuries in pelvic surgery, cervicobrachial pain, painful shoulder, pancreatic surgery, carcinoma of the colon and rectum, management of bleeding in the third trimester of pregnancy and of surgical disease occurring during pregnancy, and choice of operation in the patient with cystocele and prolapse. Dr. Harold L. Foss, Danville, Pa., president of the college, will preside at the banquet on Wednesday, 7:30 p. m., and Dr. Paul R. Hawley, Chicago, director of the college, will speak on "The Years Ahead."

Neurological Research.—A program to stimulate research in neurological and sensory diseases is announced by the newly formed National Committee for Research in Neurological Disorders, whose charter members are the National Society for Crippled Children and Adults, National Multiple Sclerosis Society, United Cerebral Palsy, Committee for the Public Understanding of Epilepsy, Muscular Dystrophy Associations, National Epilepsy League, and the professional neurological societies. Dr. Abe B. Baker, professor of neurology, University of Minnesota Medical School, Minneapolis, and chairman of the Educational Committee of the American Academy of Neurology, has been elected chairman of the new committee. Each of the cooperating agencies will continue its own research and service programs. The new committee will stimulate interest in research and training programs that will serve as a base for the entire field.

LATIN AMERICA

Nutrition Conference in Cuba.—Under the auspices of the University of Havana, Northwestern University, and the Massachusetts Institute of Technology, the Fundación de Investigaciones Médicas, Havana, recently held a meeting on nutrition, which was attended by officials of the American Medical Association, Southern Medical Association, World Medical Association, the medical societies of Cuba, Northwestern University, the Massachusetts Institute of Technology, and other organizations. During the meeting, honorary degrees were bestowed by the School of Science of the University of Havana on Dr. J. Roscoe Miller, Evanston, Ill., president, Northwestern University; James R. Killian Jr., Sc.D., president, Massachusetts Institute of Technology, Cambridge; Robert S. Harris, Ph.D., professor of biochemistry of nutrition, Massachusetts Institute of Technology; Robert R. Williams, M.S., president of the Williams-Waterman Fund of the Research Corporation of New York; and Dr. Tom D. Spies, head of the department of nutrition and metabolism of the Northwestern University Medical School, who is also director of the nutrition clinic in Birmingham, Ala., and scientific co-director of F. I. M.'s Pabellón Especial in the Havana University Hospital. Inauguration of the new F. I. M. Nutrition Laboratories in the Finlay Institute, which was planned to coincide with the F. I. M. Conference on Science, Food and Nutrition, represents the culmination of three years of work with the cooperation and financial support of various foreign and local groups. Robert S. Harris, Ph.D., has been appointed scientific director of the laboratories, which will conduct a study of the nutrient elements of Cuban vegetable and animal produce.

FOREIGN

Congress of Rheumatic Diseases.—The eighth International Congress of Rheumatic Diseases will be held in Geneva, Switzerland, Aug. 24-28, under the auspices of the International League Against Rheumatism. The first report will be on connective tissue and its relations to rheumatism, the second on the steroid hormones in the treatment of rheumatism, the third on the surgical and therapeutic aspects of rheumatism, and the last report on chronic rheumatism. American physicians who will participate in the presentations include Dr. Philip S. Hench, Rochester, Minn., and Dr. Howard A. Rusk, New York.

Meeting on Vitamins.—The National Research Council (7 Piazzale delle Scienze, Rome, Italy) announces that the subject for its third Science Day meetings (April 12-16) will be "Problems of the Science of Alimentation: The Vitamins." The symposium will include papers on "History of the Discovery of the Vitamins (A General Outline About the Developments During the Last Three Decades)," "Vitamins and Enzymes," "The Antivitamins," "Hypovitaminosis and Inapparent Dystrophy in the Clinic," "Blood and Vitamins," and "Heart and Vitamins." The meetings will be held in the National Museum for Science and Technics (17 via S. Vittore).

EXAMINATIONS AND LICENSURE

BOARDS OF MEDICAL EXAMINERS

ALABAMA: *Examination.* Montgomery, June 23-25. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery.

ALASKA:* *Examination.* Juneau, March 3. On application in other towns where there are board members. *Reciprocity.* On application. Sec., Dr. W. M. Whitehead, Box 140, Juneau.

ARIZONA:* *Examination.* Phoenix, April 21-23. Sec., Dr. J. H. Patterson, 316 W. McDowell Road, Phoenix.

ARKANSAS:* *Regular. Examination.* Little Rock, June 18-19. Sec., Dr. Joe Verser, Harrisburg. *Homeopathic. Examination.* Little Rock, April 6. Sec., Dr. Carl S. Bungart, 105 North 14th St., Ft. Smith. *Eclectic.* Little Rock, June 4-5. Sec., Dr. Frank C. Smith, 2301 Broadway, Little Rock.

CALIFORNIA: *Examination.* Los Angeles, March 2-5. Sec., Dr. Frederick N. Scatena, 1020 N Street, Sacramento.

CONNECTICUT:* *Medical.* Hartford, March 10-11. Sec., Dr Creighton Barker, 160 St. Ronan St., New Haven. *Homeopathic.* Derby, March 10-11. Sec., Dr. Donald A. Davis, 38 Elizabeth St., Derby.

DISTRICT OF COLUMBIA:* *Examination.* Washington, May 11-12. Commissioner of Licensure, Dr. Daniel L. Seckinger, 4130 East Municipal Bldg., Washington.

FLORIDA:* Jacksonville, June 28-30. Sec., Dr. Homer Pearson, 701 Dupont Bldg., Miami.

GEORGIA: *Examination.* Atlanta and Augusta, June 9-10. *Reciprocity.* Atlanta, June. Sec., Mr. R. C. Coleman, 111 State Capitol, Atlanta.

GUAM: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Ex. Sec., Dr. Austin W. Matthis, Agana.

ILLINOIS: *Examination.* Chicago, April 7-9. Supt. of Regis., Mr. Frederic B. Selcke, Capitol Bldg., Springfield.

INDIANA: *Examination.* Indianapolis, June 23-25. Ex. Sec., Miss Ruth V. Kirk, 538 K of P Bldg., Indianapolis.

IOWA:* *Examination.* Iowa City, June 15-17. Sec., Dr. M. A. Royal, 506 Fleming Bldg., Des Moines.

KANSAS: Kansas City, June 10-11. Sec., Dr. O. W. Davidson, 864 New Brotherhood Bldg., Kansas City.

KENTUCKY: *Examination.* Louisville, June 8-10. Sec., Dr. Bruce Underwood, 620 South Third St., Louisville 2.

MAINE: Portland, March 10-11. Sec., Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: *Examination.* Baltimore, June 16-19. Sec., Dr. Lewis P. Gundry, 1215 Cathedral St., Baltimore 1.

MINNESOTA:* Minneapolis, April 21-23. Sec., Dr. J. F. DuBois, 230 Lowry Medical Arts Bldg., St. Paul 2.

MISSISSIPPI: Jackson, June 22-24. Sec., Dr. Felix J. Underwood, Old Capitol Bldg., Jackson 113.

MONTANA: *Examination.* Helena, April 7-8. *Reciprocity.* Helena, April 6. Sec., Dr. S. A. Cooney, 7 West 6th Ave., Helena.

NEBRASKA:* *Examination.* Omaha, June 15-17. Director, Mr. Husted K. Watson, Room 1009 State Capitol Bldg., Lincoln 9.

NEW HAMPSHIRE: Concord, March 11-12. Sec., Dr. John S. Wheeler, 107 State House, Concord.

NEW JERSEY: Trenton, June 16-19. Sec., Dr. Earl S. Hallinger, 28 West State St., Trenton.

NEW MEXICO:* Santa Fe, April 13-14. Sec., Dr. R. C. Derbyshire, 227 E. Palace Ave., Santa Fe.

NORTH CAROLINA: *Reciprocity.* Pinehurst, May 11. Sec., Dr. Joseph J. Combs, 716 Professional Bldg., Raleigh.

NORTH DAKOTA: Grand Forks, July 8-11. Sec., Dr. C. J. Glaspel, Grafton.

OHIO: *Examination.* Columbus, June 15-17. *Reciprocity.* Columbus, April 7. Sec., Dr. H. M. Platter, 21 W. Broad, Columbus 15.

OKLAHOMA:* *Examination.* Oklahoma City, June 10-11. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON:* *Examination.* Portland, July. *Reciprocity.* Portland, April 10-11. Exec. Sec., Mr. Howard I. Bobbitt, 609 Failing Bldg, Portland.

RHODE ISLAND:* Providence, April 2-3. Administrator, Division of Professional Regulation, 366 State Office Bldg., Providence.

SOUTH DAKOTA:* Rapid City, June 17-18. Sec., Dr. C. B. McVay, Yankton Clinic, Yankton.

TENNESSEE:* *Examination.* Memphis, March 25-26. Sec., Dr. H. W. Qualls, 1635 Exchange Bldg., Memphis 3.

TEXAS:* Fort Worth, June 22-24. Sec., Dr. M. H. Crabb, 1714 Medical Arts Bldg., Ft. Worth 2.

UTAH: *Examination.* Salt Lake City, July. Asst. Dir., Mr. Frank E. Lees, 324 State Capitol Bldg., Salt Lake City.

VIRGIN ISLANDS: *Examination.* St. Thomas, June 10-11. Sec., Dr. Earle M. Rice, Box 8, St. Thomas.

WEST VIRGINIA: Charleston, April 6-8. Sec., Dr. Newman H. Dyer, State Office Bldg., No. 3, Charleston 5.

WYOMING: *Oral. Reciprocity.* Cheyenne, June 8. Sec., Dr. Franklin D. Yoder, State Office Bldg., Cheyenne.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ALASKA: On application. Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

ARIZONA: *Examination.* Tucson, March 17. Sec., Mr. Herbert D. Rhodes, University of Arizona, Tucson.

ARKANSAS: *Examination.* Little Rock, May 5-6. Sec., Mr. Louis E. Gebauer, 1002 Donaghey Bldg., Little Rock.

COLORADO: Denver, March 4-5. Sec., Dr. Esther B. Starks, 1459 Ogden St., Denver 18.

DISTRICT OF COLUMBIA: *Examination.* Washington, April 20-21. Commissioner of Licensure, Dr. Daniel L. Seckinger, 4130 East Municipal Bldg., Washington.

FLORIDA: *Examination.* Gainesville, June 6. Sec., Mr. M. W. Emmel, Box 340, University of Florida, Gainesville.

MINNESOTA: Minneapolis, April 7-8. Sec., Dr. Raymond N. Bieter, 105 Millard Hall, University of Minnesota, Minneapolis.

NEBRASKA: Omaha, May 5-6. Director, Bureau of Examining Boards, Mr. Husted K. Watson, Room 1009, State Capitol Bldg., Lincoln 9.

NEVADA: *Examination.* Reno, April 7. Sec., Mr. Frank Richardson, University of Nevada, Reno.

NEW MEXICO: *Examination.* Santa Fe, March 15. Sec., Mrs. Marguerite Cantrell, P. O. Box 1592, Santa Fe.

OKLAHOMA: Oklahoma City, April 3. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON: *Examination.* Portland, March 7. Sec., Dr. Charles D. Byrne, University of Oregon, Eugene.

SOUTH DAKOTA: *Examination.* Vermillion, June 5-6. Sec., Dr. Gregg M. Evans, 310 E. 15th St., Yankton.

TENNESSEE: *Examination.* Memphis, March 18-19. Sec., Dr. O. W. Hyman, 874 Union Ave., Memphis.

TEXAS: *Examination.* Dallas and Galveston, April. Sec., Bro. Raphael Wilson, 407 Perry Brooks Bldg., Austin.

WISCONSIN: *Examination.* Madison, April 11. Final date for filing application is April 4. Milwaukee, June 13. Final date for filing application is June 6. Sec., Dr. W. H. Barber, 621 Ransom St., Ripon.

* Basic Science Certificate required.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.
1953 Annual Session, New York, June 1-5.
1953 Clinical Session, St. Louis, Dec. 1-4.
1954 Annual Session, San Francisco, June 21-25.
1954 Clinical Session, Miami, Florida, Nov. 30-Dec. 3.

ALABAMA, MEDICAL ASSOCIATION OF THE STATE OF, Birmingham, April 16-18. Dr. D. L. Cannon, 537 Dexter Ave., Montgomery, Secretary.

AMERICAN ACADEMY OF GENERAL PRACTICE. Kiel Auditorium, St. Louis, March 23-26. Mr. Mac F. Cahal, 406 West 34th St., Kansas City 2, Mo., Executive Secretary.

AMERICAN ACADEMY OF PEDIATRICS, Areal Meeting, Hotel Statler, Boston, April 20-22. Dr. E. H. Christopherson, 610 Church St., Evanston, Illinois, Executive Secretary.

AMERICAN ASSOCIATION OF ANATOMISTS, Columbus, Ohio, April 1-3. Dr. Normand L. Hoerr, 2109 Adelbert Road, Cleveland 6, Secretary.

AMERICAN ASSOCIATION FOR CLEFT PALATE REHABILITATION, The Atlanta-Biltmore, Atlanta, Ga., April 27-28. Dr. Jack Matthews, 1617 Cathedral of Learning, University of Pittsburgh, Pittsburgh 13, Secretary.

AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE, Deshler-Wallick Hotel and Ohio State Museum Auditorium, Columbus, Ohio, April 10-12. Dr. Samuel X. Radbill, 7043 Elmwood Ave., Philadelphia 42, Secretary.

AMERICAN ASSOCIATION OF IMMUNOLOGISTS, Congress Hotel, Chicago, April 6-10. Dr. John Y. Sugg, 1300 York Avenue, New York, Secretary.

AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS, St. Louis, April 2-4. Dr. Alan R. Moritz, 2085 Adelbert Road, Cleveland 6, Secretary.

AMERICAN ASSOCIATION OF RAILWAY SURGEONS, Drake Hotel, Chicago, April 7-9. Dr. Chester C. Guy, 5800 Stony Island Ave., Chicago 37, Secretary.

AMERICAN ASSOCIATION FOR THORACIC SURGERY, Fairmont Hotel, San Francisco, March 27-30. Dr. Paul C. Samson, 2938 McClure St., Oakland 9, Calif., Secretary.

AMERICAN COLLEGE OF PHYSICIANS, Haddon Hall, Atlantic City, N. J., April 13-17. Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Executive Secretary.

AMERICAN HEART ASSOCIATION, Hotel Chelsea, Atlantic City, N. J., April 8-12. Dr. Charles D. Marple, 44 East 23d St., New York 10, Medical Director.

AMERICAN PHYSIOLOGICAL SOCIETY, Conrad Hilton Hotel, Chicago, April 6-10. Dr. E. F. Adolph, Univ. of Rochester School of Medicine and Dentistry, Rochester, N. Y., Secretary.

AMERICAN PSYCHOSOMATIC SOCIETY, Chalfonte-Haddon Hall, Atlantic City, N. J., April 18-19. Dr. Frederick C. Redlich, 551 Madison Ave., New York 22, Secretary.

AMERICAN RADIUM SOCIETY, Plaza Hotel, St. Louis, April 19-22. Dr. John E. Wirth, 635 Herkimer St., Pasadena 1, Calif., Secretary.

AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, Conrad Hilton Hotel, Chicago, April 6-10. Dr. Elmer H. Stotz, 260 Crittenden Blvd., Rochester, N. Y., Secretary.

AMERICAN SOCIETY FOR EXPERIMENTAL PATHOLOGY, Chicago, April 6-9. Dr. Russell L. Holman, 1542 Tulane Ave., New Orleans 12, Secretary.

AMERICAN SOCIETY FOR PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, Conrad Hilton Hotel, Chicago, April 6-10. Dr. Carl C. Pfeiffer, 1853 W. Polk St., Chicago 12, Secretary.

AMERICAN SURGICAL ASSOCIATION, Hotel Statler, Los Angeles, April 1-3. Dr. Nathan A. Womack, Dept. of Surgery, School of Medicine, Univ. of N. C., Chapel Hill, N. C., Secretary.

ARKANSAS MEDICAL SOCIETY, Little Rock, April 22-24. Dr. J. J. Monfort, 215 Kelley Bldg., Fort Smith, Secretary.

CENTRAL SURGICAL ASSOCIATION, Drake Hotel, Chicago, March 5-7 Dr. Robert M. Zollinger, University Hospital, Columbus 10, Ohio, Secretary.

CHICAGO MEDICAL SOCIETY ANNUAL CLINICAL CONFERENCE, Palmer House, Chicago, March 3-6. Dr. Maurice M. Hoeltgen, 86 East Randolph St., Chicago 1, Secretary.

DALLAS SOUTHERN CLINICAL SOCIETY, Baker and Adolphus Hotels, Dallas, Texas, Mar. 16-19. Dr. T. Haynes Harvill, 433 Medical Arts Bldg., Dallas 1, Secretary.

FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY, Blackstone, Congress, Conrad Hilton hotels and Palmer House, Chicago, April 6-10. Dr. M. O. Lee, 2101 Constitution Avenue, Washington 25, D. C., Secretary.

INDUSTRIAL MEDICAL ASSOCIATION, Los Angeles, April 21-24. Dr. Arthur K. Peterson, 350 East 22d St., Chicago 16, Secretary.

MICHIGAN CLINICAL INSTITUTE, Sheraton Hotel, Detroit, March 11-13. Dr. J. M. Robb, 606 Townsend St., Lansing 15, Mich., General Chairman.

NATIONAL MULTIPLE SCLEROSIS SOCIETY, New York, March 10. Miss Sylvia Lawry, 270 Park Ave., New York 17, Executive Secretary.

NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, Hotel Statler, New York, March 18-20. Dr. Franklin M. Foote, 1790 Broadway, New York 19, Executive Director.

NEW ENGLAND SOCIETY OF ANESTHESIOLOGISTS, Boston, April 3. Dr. Francis J. Audin, 114 Danehill Rd., Newton Highlands 61, Mass., Secretary.

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY, Municipal Auditorium, New Orleans, March 2-5. Dr. Woodward D. Beacham, 1430 Tulane Avenue, New Orleans 12, Secretary.

NORTH PACIFIC SOCIETY OF NEUROLOGY AND PSYCHIATRY, Portland, Ore., April 10-11. Dr. Robert A. Coen, 218 Mayer Bldg., Portland 5, Ore., Secretary.

OHIO STATE MEDICAL ASSOCIATION, Netherland Plaza, Cincinnati, April 21-23. Mr. Charles S. Nelson, 79 East State St., Columbus 15, Executive Secretary.

OKLAHOMA STATE MEDICAL ASSOCIATION, Cimarron Ballroom, Tulsa, April 13-15. Mr. R. H. Graham, 1227 Classen Drive, Oklahoma City, Executive Secretary.

PACIFIC COAST OTO-OPHTHALMOLOGICAL SOCIETY, Los Angeles, April 24-28. Dr. H. P. House, 1136 West 8th St., Los Angeles 14, Secretary.

PIEDMONT PROCTOLOGIC SOCIETY, Robert E. Lee Hotel, Winston-Salem, N. C., March 28. Dr. B. Richard Jackson, 224 Hillsboro St., Raleigh, N. C., Secretary.

REGIONAL MEETINGS, AMERICAN COLLEGE OF PHYSICIANS:

KANSAS, Kansas City, March 20. Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Executive Secretary.

SECTIONAL MEETINGS, AMERICAN COLLEGE OF SURGEONS:

BOSTON, Statler Hotel, March 2-5. Dr. Samuel F. Marshall, 605 Commonwealth Ave., Boston, Chairman.

SALT LAKE CITY, Utah Hotel, Mar. 20-21. Dr. John H. Clark, 349 East First Street South, Salt Lake City, Chairman.

OKLAHOMA CITY, Oklahoma-Biltmore Hotel, March 24-25. Dr. C. E. Clymer, 117 North Broadway, Oklahoma City, Chairman.

LOS ANGELES, Statler Hotel, March 30-31. Dr. Ewing L. Turner, 1930 Wilshire Blvd., Los Angeles, Chairman.

CALGARY, Alberta, Canada, Palliser Hotel, April 23-24. Dr. Donald G. MacQueen, Colonel Belcher Hospital, Calgary, Alberta, Canada, Chairman.

SOCIETY OF NEUROLOGICAL SURGEONS, Roosevelt Hotel, New Orleans, March 19-21. Dr. Edgar F. Fincher, Emory University, Ga., Secretary.

SOUTHEASTERN SURGICAL CONGRESS, Louisville, Ky., March 9-12. Dr. Benjamin T. Beasley, 45 Edgewood Ave. S.E., Atlanta 3, Ga., Secretary.

TENNESSEE STATE MEDICAL ASSOCIATION, Peabody Hotel, Memphis, April 13-15. Mr. V. O. Foster, 504 Doctors Bldg., Nashville, Executive Secretary.

U. S. CHAPTER, INTERNATIONAL COLLEGE OF SURGEONS, SURGICAL DIVISION MEETINGS:

ST. LOUIS, Statler Hotel, March 31-April 1. Dr. Roland Klemme, 4952 Maryland Ave., St. Louis 8, Chairman.

KNOXVILLE, TENN., Andrew Johnson Hotel, April 24-25. Dr. E. Park Niceley, Acuff Clinic, 514 West Church St., Knoxville, Tenn., Chairman.

UNITED STATES-MEXICO BORDER PUBLIC HEALTH ASSOCIATION, El Paso, Texas, March 26-27. Dr. J. Ellington, 314 U. S. Court House, El Paso, Texas, Secretary.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION, Hotel Statler, Los Angeles, April 18-25. Dr. E. P. Luongo, General Petroleum Corp., 613 South Flower St., Los Angeles 14, Secretary.

FOREIGN

BRITISH MEDICAL ASSOCIATION, Cardiff, S. Wales, July 13-17. Dr. A. MacCrae, B. M. A. House, Tavistock Square, London W.C.1, England, Secretary.

CANADIAN MEDICAL ASSOCIATION, Winnipeg, Manitoba, Canada, June 15-19. Dr. T. C. Routley, 135 St. Clair Avenue W., Toronto 5, Ontario, Canada, General Secretary.

CONGRESS OF INTERNATIONAL ANESTHESIA RESEARCH SOCIETY, Chateau Frontenac, Quebec, Canada, October 26-29. Dr. A. William Friend, 515 Nome Ave., Akron 20, Ohio, Chairman, Program Committee.

CONGRESS OF INTERNATIONAL LEAGUE AGAINST RHEUMATISM, Geneva and Zurich, Switzerland, Aug. 24-29. For information write: Dr. W. Tegner, The London Hospital, London E.1, England.

CONGRESS OF THE INTERNATIONAL SOCIETY OF ANGIOLOGY, Lisbon, Portugal, Sept. 18-20. Dr. Henry Haimovici, 105 East 90th St., New York 28, N. Y., U. S. A., Secretary.

CONGRESS OF THE INTERNATIONAL SOCIETY OF SURGERY, Lisbon, Portugal, Sept. 14-20. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

EUROPEAN CONGRESS OF ALLERGOLOGY, Stockholm, Sweden, May 20-23. For information write: Dr. Egon Brunn, Gersonavej 8, Hellerup, Copenhagen, Denmark.

INTERNATIONAL CONFERENCE ON THROMBOSIS AND EMBOLISM, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

INTERNATIONAL CONGRESS OF AUDIOLOGY, Leiden, Netherlands, June 5-6. Dr. H. A. E. ve Dishoeck, Leiden University, Leiden, Netherlands, President.

INTERNATIONAL CONGRESS OF ELECTROENCEPHALOGRAPHY AND CLINICAL NEUROPHYSIOLOGY, Boston, Mass., U. S. A., Aug. 18-21. Dr. Robert S. Schwab, Massachusetts General Hospital, Boston 14, Mass., U. S. A., Secretary-General.

INTERNATIONAL CONGRESS ON GENETICS, Bellagio, Italy, August 4. Prof. C. Barigozzi, Instituto de Genetica, Universita de Milano, 10 via Celoria, Milan, Italy, Secretary.

INTERNATIONAL CONGRESS OF GYNECOLOGY, Geneva, Switzerland, July 21-26, 1954. Dr. Maurice Fabre, 1, rue Jules-Lefebore, Paris IXe, France, General Secretary.

INTERNATIONAL CONGRESS OF HIPPOCRATIC MEDICINE, Evian, France, Sept. 3-6. Prof. P. Delore, 13 rue Jarente, Lyons, France, Secretary-General.

INTERNATIONAL CONGRESS FOR HISTORY OF SCIENCE, Jerusalem, Israel, August 3-7. Prof. F. S. Bodenheimer, Hebrew University, Jerusalem, Israel, President.

INTERNATIONAL CONGRESS OF INTERNATIONAL COLLEGE OF SURGEONS, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U.S.A., Secretary-General

INTERNATIONAL CONGRESS ON MEDICAL LIBRARIANSHIP, London, England, July 20-25. Mr. W. R. LeFanu, % London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1, England, Chairman.

INTERNATIONAL CONGRESS ON MENTAL HEALTH, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

INTERNATIONAL CONGRESS OF MICROBIOLOGY, Rome, Italy, Sept 6-12. For information write: Dr. V. Puntoni, Citta Universitaria, Rome, Italy.

INTERNATIONAL CONGRESS OF OTO-NEURO-OPHTHALMOLOGY, Bologna, Italy, May 3-7. Dr. Guiseppe Cristini, Clinica Oculistica, Policlinico, Bologna, Italy, General Secretary.

INTERNATIONAL CONGRESS OF OTORHINOLARYNGOLOGY, Amsterdam, Netherlands, June 8-13. Dr. W. H. Struben, J. J. Viottastraat 1, Amsterdam, Netherlands, Secretary.

INTERNATIONAL CONGRESS OF PAEDIATRICS, Havana, Cuba, Oct. 12-17. Prof. Felix Hurtado, 5a Avenue 124, Miramar, Havana, Cuba President.

INTERNATIONAL CONGRESS OF RADIOLOGY, Copenhagen, Denmark, July 19-25. Professor Flemming Norgaard, 10 Oster Voldgade, Copenhagen K, Denmark, Secretary General.

INTERNATIONAL CONGRESS OF THALASSOTHERAPY, Dubrovnick, Yugoslavia, May 17-25. Prof. C. Plavaic, Mavrodne Republick 51, Belgrade, Yugoslavia, Secretary General.

INTERNATIONAL CONGRESSES OF TROPICAL MEDICINE AND MALARIA, Istanbul, Turkey, Aug. 28-Sept. 4. Professor Dr. Ihsan Sükrü Aksel, Tunel Meydam, Beyoglu, Istanbul, Turkey, General Secretary.

INTERNATIONAL FERTILITY ASSOCIATION, Henry Hudson Hotel, New York, N. Y., U. S. A., May 25-31. Dr. Abner I. Weisman, 1160 Fifth Avenue, New York 29. N. Y., U. S. A., Associate Secretary General.

INTERNATIONAL GERONTOLOGICAL CONGRESS, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

INTERNATIONAL GYNAECOLOGICAL MEETING, Paris, France, May 22-23. For information write: Dr. Jacques Courtois, 1, rue Racine, St. Germain-en-Laye, Seine et Oise, France.

INTERNATIONAL HOSPITAL CONGRESS, London, England, May 25-30. Capt. J. E. Stone, 10 Old Jewry, London, EC2, England, Hon. Secretary.

INTERNATIONAL LEPROSY CONGRESS, Madrid, Spain, Oct. 3-10. Dr. Felix Contreras, Moreto 15, Madrid, Spain, Secretary.

INTERNATIONAL PHYSIOLOGICAL CONGRESS, Montreal, Canada, Aug. 31-Sept. 4. Dr. A. S. V. Burgen, Dept. of Physiology, McGill University, Montreal, Canada, Secretary.

INTERNATIONAL PSYCHO-ANALYTICAL CONGRESS, Bedford College, Regent's Park, London N.W.1, England, July 26-30. Dr. Ruth S. Eissler, 285 Central Park West, New York 24, N. Y., Hon. Secretary.

INTERNATIONAL VETERINARY CONGRESS, Stockholm, Sweden, Aug. 9-15. Prof. Axel Isaksson, Institute of Veterinary Medicine, Stockholm 50, Sweden, Secretary.

PACIFIC SCIENCE CONGRESS, Quezon City and Manila, Philippines, Nov. 16-28. Dr. Patrocinio Valenzuela, College of Pharmacy, University of the Philippines, Quezon City, Philippines, Secretary-General.

PAN AMERICAN CONGRESS OF THE MEDICAL PRESS, Buenos Aires, Argentine, July 12-16. Secretaria del Congress, 763 Uriburu, Buenos Aires, Argentine.

PHILIPPINE MEDICAL ASSOCIATION, Manila, April 19-26. Dr. Manuel D. Penas, Doctor's Hospital, 707 Vermont St., Manila, Philippines, Secretary.

WORLD CONFERENCE ON MEDICAL EDUCATION, British Medical Association House, Tavistock Square, W.C.1, London, England, Aug. 22-29. Secretariat: World Medical Association, 2 East 103d St., New York 29, N. Y., U. S. A.

WORLD CONGRESS OF THE WORLD CONFEDERATION FOR PHYSICAL THERAPY, London, England, Sept. 7-12. Miss M. J. Nellson, Chartered Society of Physiotherapy, Tavistock House, South, Tavistock Square, London, W.C.1, England, Secretary.

WORLD MEDICAL ASSOCIATION, The Hague, Netherlands, Aug. 31-Sept. 7. Dr. Louis H. Bauer, 2 East 103d St., New York 29, N. Y., Secretary-General.

DEATHS

Skinner, Edward Holman ⊕ Kansas City, Mo.; born in Milwaukee Jan. 7, 1881; Hahnemann Medical College and Hospital, Chicago, 1902; St. Louis University School of Medicine, 1904; chairman, Section on Radiology, 1927-1928, and member of the House of Delegates of the American Medical Association in 1928, 1935, 1937, and from 1938 to 1944; president of the American Roentgen Ray Society in 1928; in 1946-1947 president of the American College of Radiology, which awarded him posthumously the gold medal for leadership in socioeconomic aspects of medical care; at one time secretary, and in 1937 president of the American Radium Society, which in 1941 awarded him its Janeway medal; organizer and first president of the Kansas City Southwest Clinical Society in 1923, and served continuously as editor of its *Kansas City Medical Journal;* president of the Jackson County Medical Society in 1931 and for many years chairman of the senior library committee; member of the Radiological Society of North America; lecturer in radiology and history of medicine at University of Kansas School of Medicine, Kansas City, Kan.; in 1932-1934 a director of the American Society for the Control of Cancer and was president of the Health Council of Kansas City, Mo., in 1933; specialist certified by the American Board of Radiology, of which he was a member; during World War I served with the rank of lieutenant colonel and was associate consultant in x-ray for the American Expeditionary Forces; affiliated with St. Luke's and St. Mary's hospitals; died in University of Kansas Medical Center, Kansas City, Kan., Jan. 11, aged 72, of aplastic anemia secondary to x-ray and radium exposure.

Coleman, Claude C. ⊕ Richmond, Va.; born July 21, 1879; Medical College of Virginia, Richmond, 1903; emeritus professor of neurological surgery at his alma mater, where he became professor in 1924 and where he was the founder of the department; clinical professor of neurological surgery at the University of Virginia Department of Medicine, Charlottesville, from 1937 to 1941; appointed to the board of visitors of the College of William and Mary at Williamsburg, where he was awarded an honorary doctor of science degree in 1948; member of the founders group of the American Board of Surgery; specialist certified by the American Board of Neurological Surgery; past president of the Richmond Academy of Medicine; member of the Southern Surgical Association, Southeastern Surgical Congress, Society of Neurological Surgeons of which he was past president, and the American Neurological Association; fellow of the American College of Surgeons; major in the medical corps of the United States Army and director of the school of brain surgery at Fort Oglethorpe during World War I; civilian consultant in neurological surgery to the surgeon general, World War II; consultant, special advisory board, Veterans Administration; consultant in neurological surgery and formerly chief neurosurgeon, Medical College of Virginia, Hospital Division, where he died Jan. 9, aged 73, of emphysema and bronchitis.

Ritenour, Joseph Paul ⊕ State College, Pa.; born in Uniontown, Pa., Sept. 1, 1879; University of Pennsylvania Department of Medicine, Philadelphia, 1906; past president, vice-president, and formerly member of the council of the American Student Health Association, of which he had been one of the organizers; director of the health service at Pennsylvania State College and physician for Pennsylvania State athletic teams from 1917 until his retirement in 1946; for more than 25 years president of the State College Board of Health; until the time of his death served as chairman of the board of directors of the Peoples National Bank; served as director of the National Tuberculosis Association, as vice-president of the Pennsylvania Tuberculosis and Health Society of which he was director from 1932 to May, 1950, and president of the Centre County Tuberculosis and Health Society; died in Clearwater, Fla., Dec. 16, aged 73, of coronary thrombosis.

⊕ Indicates Member of the American Medical Association.

Freund, Hugo Abraham ⊕ Detroit; born in Detroit in 1881; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1905; professor of clinical medicine at Wayne University College of Medicine; at one time on the faculty of his alma mater; member of the Central Society for Clinical Research and the American Association of Pathologists and Bacteriologists; fellow of the American College of Physicians; for many years member of the city board of health; at one time member of the public welfare commission; served during World War I; aided in the creation of the Children's Fund of Michigan, of which he was president; first editor of the *Detroit Medical News;* affiliated with the Receiving Hospital, Michigan Hospital for Children, and Harper Hospital, where he died Dec. 24, aged 71.

Beck, Gilbert Monroe ⊕ Buffalo; born in Buffalo, Aug. 16, 1899; University of Buffalo School of Medicine, 1923; professor of psychiatry at his alma mater; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association, Central Neuropsychiatric Association, American Society on Research in Psychosomatic Problems, Association for Research in Nervous and Mental Diseases, Buffalo Neuropsychiatric Society, and the Buffalo Academy of Medicine; during World War II served in the Army Medical Corps with the rank of lieutenant colonel; assigned to the 43rd General Hospital and saw service in North Africa, Italy, southern France, and the Philippines; at one time on the staff of Johns Hopkins Hospital in Baltimore; chief psychiatrist at Buffalo General Hospital, where he died Jan. 9, aged 53.

Roberts, Eugene P., New York City; born in Louisburg, N. C., Oct. 5, 1868; New York Homeopathic Medical College and Hospital, New York, 1894; for many years medical inspector in the department of health of the city of New York; member of the board of education; served as president of the Lincoln University (Pa.) Alumni Association, and in recognition of his distinguished services to his fellow citizens was accorded the honorary degrees of master of arts, and later doctor of laws, by the university, of which he was a trustee and for many years chairman of the board; died Jan. 9, aged 84, of carcinoma of the lung.

Schmidtke, Edwin Calvin ⊕ Columbia, Mo.; born in Mount Vernon, Mo., Sept. 20, 1899; Washington University School of Medicine, St. Louis, 1931; associate professor of surgery, University of Missouri School of Medicine; fellow of the International College of Surgeons and the American College of Surgeons; specialist certified by the American Board of Surgery; member of the state board of medical examiners; president of the school board; on the consultant staff, Ellis Fischel State Cancer Hospital; affiliated with University Hospital and Boone County General Hospital, where he died Dec. 27, aged 53, of acute aplastic anemia.

Stone, Emerson Law ⊕ New Haven, Conn.; Johns Hopkins University School of Medicine, Baltimore, 1920; clinical professor of obstetrics and gynecology at Yale University School of Medicine; specialist certified by the American Board of Obstetrics and Gynecology; fellow of the American College of Surgeons; author of "The New-Born Infant" published in 1945; consultant, obstetrics and gynecology, Griffin Hospital, Derby, and Park City Hospital, Bridgeport; affiliated with Grace-New Haven Community Hospital, where he died Jan. 10, aged 57, of coronary occlusion.

Mayos, Charles Everett ⊕ St. Petersburg, Fla.; born in Manhattan, Kan., in 1878; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1908; an Associate Fellow of the American Medical Association; member of the Illinois State Medical Society and the American Psychiatric Association; formerly assistant managing officer of the East Moline (Ill.) State Hospital, where he was a member of the staff for many years; died in Veterans Administration Hospital, Bay Pines, Dec. 19, aged 74, of myocardial infarction.

Alonge, Anthony Joseph ⊕ Vergennes, Vt.; University of Vermont College of Medicine, Burlington, 1937; died Oct. 23, aged 54.

Anderson, Edgar Emmet ⊕ Lyman, Neb.; University of Nebraska College of Medicine, Omaha, 1934; served during World War II; died Dec. 7, aged 42.

Backsman, Elmore Bernard ⊕ Newport, Ky.; Ohio-Miami Medical College of the University of Cincinnati, 1911; served overseas during World War I; for many years physician for St. Anne's Convent in Melbourne; on the staffs of William Booth Memorial and St. Elizabeth hospitals in Covington, and Speers Memorial Hospital in Dayton; died Nov. 29, aged 69, of acute coronary occlusion, chronic bronchiectasis, and emphysema.

Bagot, William Sidney ⊕ Denver; University of Dublin School of Physic, Trinity College, Dublin, Ireland, 1887; served on the faculty of Denver and Gross Medical College; affiliated with St. Luke's and St. Joseph's hospitals; for many years medical director of the Capitol Life Insurance Company; died Nov. 26, aged 89, of cardiovascular renal disease.

Baird, Harry Richard ⊕ Sacramento, Calif.; College of Physicians and Surgeons of San Francisco, 1906; died Nov. 8, aged 77.

Baucum, William Charles, Concord, N. C.; Howard University College of Medicine, Washington, D. C., 1924; served during World War I; died in Cabarrus Hospital Oct. 12, aged 59, of uremia and pulmonary edema.

Blakemore, Jesse Lee ⊕ Muskogee, Okla.; University of Nashville (Tenn.) Medical Department, 1888; Vanderbilt University School of Medicine, Nashville, 1888; served on the staffs of Oklahoma Baptist and Muskogee General hospitals; died Nov. 4, aged 90, of coronary occlusion.

Bond, Thomas Parsons ⊕ Des Moines, Iowa; Wisconsin College of Physicians and Surgeons, Milwaukee, 1902; died Nov. 30, aged 89, of coronary thrombosis.

Brown, George B. ⊕ Jellico, Tenn.; Tennessee Medical College, Knoxville, 1906; affiliated with Bethany Hospital; died in St. Mary's Hospital, Knoxville, Nov. 17, aged 75, of hemorrhage and duodenal ulcer.

Brown, Otis S. ⊕ Warren, Pa.; College of Physicians and Surgeons, Baltimore, 1886; died in St. Vincent's Hospital, Erie, Oct. 14, aged 89.

Brunner, Ethan Edward, St. Petersburg, Fla.; University of Missouri School of Medicine, Columbia, 1904; formerly member of the Missouri State Board of Health; at one time superintendent of the Missouri State School in Marshall; died Nov. 12, aged 73, of cerebral hemorrhage.

Buhrman, Peter ⊕ Ann Arbor, Mich.; Wayne University College of Medicine, Detroit, 1949; interned at St. Joseph's Mercy Hospital, where he was a resident; served during World War II; drowned Nov. 29, aged 28, when his roadster crashed through a guard rail at a bridge over the Raisin River at Tecumseh.

Burton, Horace French, Flint, Mich.; Wayne University College of Medicine, Detroit, 1937; served during World War II; on the staff of the Lapeer Home and Training School; died in the Hurley Hospital Nov. 6, aged 46, of rheumatic heart disease and cirrhosis of the liver.

Burton, Paul H. ⊕ Fargo, N. D.; Minneapolis College of Physicians and Surgeons, medical department of Hamline University, 1901; past president of the North Dakota State Board of Medical Examiners and the North Dakota State Medical Association; member of the House of Delegates of the American Medical Association in 1934; fellow of the American College of Surgeons; died Nov. 4, aged 76, of coronary occlusion.

Byers, Robert Charles ⊕ Fremont, Neb.; Western University Faculty of Medicine, London, Ontario, Canada, 1903; died in Bishop Clarkson Memorial Hospital Nov. 8, aged 74, following transurethral prostatectomy for hypertrophy of the prostate.

Cahal, Ernest E. ⊕ Indianapolis; Indiana University School of Medicine, Indianapolis, 1914; on the staffs of St. Vincent's Hospital, St. Francis Hospital, and the Methodist Hospital, where he died Nov. 18, aged 68, of coronary occlusion.

Callaway, John Richard ⊕ Pauls Valley, Okla.; St. Louis College of Physicians and Surgeons, 1906; died Nov. 3, aged 75, of leukemia.

Cannon, George Emmet ⊕ Hope, Ark.; Kentucky School of Medicine, Louisville, 1898; fellow of the American College of Surgeons; served on the staff of Josephine Hospital; died Nov. 17, aged 82, of a heart attack.

Clemmer, Charles Augustus ⊕ Daytona Beach, Fla.; University College of Medicine, Richmond, 1907; past president of the Volusia County Medical Society; served during World War I; affiliated with Halifax District Hospital; died Nov. 3, aged 71, of cerebral thrombosis.

Connelly, George Sullivan ⊕ Mount Pulaski, Ill.; Barnes Medical College, St. Louis, 1909; died in St. Clara's Hospital, Lincoln, Nov. 25, aged 73, of carcinoma of the prostate.

Dawkins, N. J. ⊕ Vernon, Fla.; Louisville (Ky.) Medical College, 1891; died in Washington County Hospital, Chipley, Nov. 9, aged 81, of cerebral hemorrhage and hypertension.

Delahoussaye, Althemus Joseph Jr. ⊕ Riverside, Calif.; Howard University College of Medicine, Washington, D. C., 1942; served during World War II; medical examiner for the Golden State Mutual Life Insurance Company; died Nov. 2, aged 34.

Dixon, Myrwood Timberlake, Columbus, Ohio; Rush Medical College, Chicago, 1887; died Nov. 28, aged 89, of cardiovascular renal disease.

Early, Charles Stacy ⊕ Lakeland, Fla.; Miami Medical College, Cincinnati, 1909; died in Morrell Memorial Hospital Nov. 20, aged 74, of cerebral hemorrhage.

Fried, Harry ⊕ Brooklyn; Long Island College Hospital, Brooklyn, 1931; specialist certified by the American Board of Internal Medicine; affiliated with Bushwick and Kings County hospitals; died Dec. 25, aged 46.

Garland, Marion Cowan Burrows, Monson, Maine; Tufts College Medical School, Boston, 1906; also a graduate in pharmacy; served in the state legislature; for many years a member of the city health department of Lynn, where she died Nov. 13, aged 89, of cerebral emboli.

Gauzza, Valentine Paul, Miami Beach, Fla.; Baylor University College of Medicine, Waco, Texas, 1921; died in Doctors' Hospital, Coral Gables, Nov. 20, aged 59, of peritonitis and peptic ulcer.

Hagerty, Joseph James ⊕ Norwood, Mass.; Harvard Medical School, Boston, 1905; member of the New England Roentgen Ray Society; affiliated with Norwood Hospital, where he died Dec. 10, aged 78, of coronary occlusion.

Hattaway, John Calvin Jr. ⊕ Edison, Ga.; Emory University School of Medicine, Atlanta, 1926; died in Hillcrest Infirmary, Andalusia, Nov. 29, aged 52, of carcinoma of the stomach.

Herington, Warner ⊕ Green City, Mo.; St. Louis University School of Medicine, 1903; died Nov. 4, aged 81, of carcinoma of the spine.

Hunt, G. M. D., Cordele, Ga.; Atlanta Medical College, 1896; died Nov. 26, aged 82, of chronic myocarditis.

Hutton, Edward Henry ⊕ Hanover, Pa.; Temple University School of Medicine, Philadelphia, 1937; served during World War II; on the staff of Hanover General Hospital; died Oct. 20, aged 42, of coronary infarction.

Iltis, Charles Henry Jr. ⊕ Brooklyn; Long Island College of Medicine, Brooklyn, 1937; affiliated with the Veterans Administration Hospital; died Dec. 21, aged 41.

Justice, Harry Brick, Covington, Va.; Hahnemann Medical College and Hospital of Philadelphia, 1894; died Nov. 1, aged 80, of coronary thrombosis.

Lafargue, Leo Douglas ⊕ Effie, La.; Memphis (Tenn.) Hospital Medical College, 1911; died in Alexandria Nov. 24, aged 65, of aplastic anemia.

Leech, Walter Fundenberg ⊕ Williamson, W. Va.; St. Louis College of Physicians and Surgeons, 1900; served during World War I; died Dec. 27, aged 77, of coronary thrombosis.

Link, Joseph Anthony ⊕ Springfield, Ohio; Medical College of Ohio, Cincinnati, 1898; specialist certified by the American Board of Orthopaedic Surgery; member of the Clinical Orthopaedic Society, American Academy of Orthopedic Surgeons, and the International College of Surgeons; fellow of the American College of Surgeons; vice-president of the Clark County Medical Society in 1921; served during World War I; on the staffs of the Mercy Hospital and Springfield City Hospital; died Nov. 17, aged 79, of carcinoma of the left lung.

Lurvey, Homer David, Omaha; John A. Creighton Medical College, Omaha, 1912; served during World War I; died in Veterans Administration Hospital Nov. 12, aged 69, of hypertension, heart disease, and carcinoma of the prostate.

McCollum, Granville Gordon, San Antonio, Texas; University of Tennessee College of Medicine, Memphis, 1929; served during World War II; affiliated with Veterans Administration; died Nov. 17, aged 48, of rheumatic heart disease.

Marvel, Reuben Joshua, Center Conway, N. H.; College of Physicians and Surgeons, Baltimore, 1903; died Nov. 8, aged 79.

Miles, Walter Galliber, Chattahoochee, Fla.; University of Georgia Medical Department, Augusta, 1926; member of the Southern Psychiatric Association and the American Psychiatric Association; served during World War II; died in the Florida State Hospital Nov. 16, aged 51, of bronchogenic carcinoma.

Milliken, William Patton ⊕ Oakland, Calif.; Oakland College of Medicine and Surgery, 1910; served during World War I; affiliated with Providence Hospital, where he died Nov. 23, aged 88, of coronary occlusion and arteriosclerosis.

Moomaw, Benjamin Crumpacker ⊕ Roanoke, Va.; University of Virginia Department of Medicine, Charlottesville, 1899; died in the Shenandoah Hospital Nov. 19, aged 78, of arteriosclerosis and myocarditis.

Murphy, Peter Francis ⊕ Metairie, La.; Medical Department of Tulane University of Louisiana, New Orleans, 1910; for many years head of the medical staff of United Fruit Company in New Orleans; formerly director of the Rapides parish health unit; served on the staffs of Hotel Dieu, Touro Infirmary, and Charity Hospital of Louisiana, in New Orleans; died Nov. 11, aged 67, of a heart attack.

Murray, John Jessie ⊕ Los Angeles; Deutsche Universität Medizinische Fakultät, Prague, Czechoslovakia, 1923; died Nov. 3, aged 54, of a heart attack.

Mussil, Anton C., Granger, Texas; University of the South Medical Department, Sewanee, Tenn., 1900; died Nov. 14, aged 77, following a prostatectomy and cerebral hemorrhage.

Norment, John Edwin ⊕ Clinton, Iowa; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1924; affiliated with Jane Lamb Memorial Hospital, where he died Nov. 12, aged 52, of coronary occlusion.

Palmer, Melville Mack, Homer City, Pa.; Medical Department of the Western University of Pennsylvania, Pittsburgh, 1905; died Oct. 10, aged 79.

Penrod, Clarence B. ⊕ Pittsburgh; University of Pittsburgh School of Medicine, 1929; specialist certified by the American Board of Surgery; fellow of the American College of Surgeons; on the staff of the Western Pennsylvania Hospital, where he died Oct. 31, aged 48, of hypernephroma.

Portis, Edward Stegall, Albany, Ga.; Leonard Medical School, Raleigh, N. C., 1908; died Nov. 17, aged 78, of coronary thrombosis.

Power, John Rayford ⊕ Abbeville, S. C.; Medical College of the State of South Carolina, Charleston, 1912; on the staff of the Abbeville County Memorial Hospital; died Nov. 6, aged 73, of cerebral thrombosis.

Prescott, Charles Albert ⊕ Hudson Falls, N. Y.; Albany Medical College, 1906; served as health officer; died in Albany Hospital Nov. 11, aged 70, of a cerebral vascular accident.

Read, Benjamin Jordan ⊕ Lynchburg, Va.; University of Virginia Department of Medicine, Charlottesville, 1900; served on the staff of the Williamson (W. Va.) Memorial Hospital; died Dec. 4, aged 76, of coronary thrombosis.

Roberts, Frederick James ⊕ Detroit; Detroit College of Medicine, 1910; died in St. Joseph Mercy Hospital Oct. 4, aged 66, of cerebral thrombosis.

Roe, Charles E. ⊕ Viola, Ark.; Eclectic Medical University, Kansas City, Mo., 1916; died Nov. 18, aged 68.

Rose, Frances Eastman ⊕ Spokane, Wash.; University of Minnesota Medical School, Minneapolis, 1895; an Associate Fellow of the American Medical Association; fellow of the American College of Surgeons; formerly head of the department of hygiene, Whitworth College; served on the staff of St. Luke's Hospital, where she died Nov. 12, aged 80, of coronary occlusion.

Saggus, John Gordon ⊕ Harlem, Ga.; Atlanta College of Physicians and Surgeons, 1912; died in University Hospital, Augusta, Nov. 23, aged 64, of cancer.

Schneider, John M., Milwaukee; Marquette University School of Medicine, Milwaukee, 1914; affiliated with St. Mary's Hospital; died Nov. 21, aged 65, of chronic myocarditis.

Smith, Walter Winslow, Scottsdale, Ariz.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1874; died in Phoenix, Ariz., Nov. 24, aged 98, of carcinoma of the rectum.

Smothers, Robert Edward Lee, Birmingham, Ala.; Medical College of Alabama, Mobile, 1899; Chattanooga (Tenn.) Medical College, 1902; died Nov. 21, aged 79, of myocarditis and cardiorenal disease.

Sowell, James Lawrence ⊕ Jasper, Ala.; Medical Department of Tulane University of Louisiana, New Orleans, 1891; affiliated with Peoples Hospital; died in Walker County Hospital Nov. 26, aged 84, of bronchopneumonia.

Sullivan, Eulick Francis ⊕ Holyoke, Mass.; University of Vermont College of Medicine, Burlington, 1904; member and past president of the staff of Providence Hospital, where he died Nov. 10, aged 73, of adenocarcinoma of the prostate.

Sutherland, Jesse Columbus ⊕ Sparta, Ill.; University College of Medicine, Richmond, 1907; owner of a hospital bearing his name; died in St. John's Hospital, Springfield, Nov. 5, aged 71, of injuries received in an automobile accident.

Talbot, Elbert Berkley ⊕ Richmond, Va.; Medical College of Virginia, Richmond, 1911; died in the Retreat for the Sick Nov. 15, aged 71, of acute myocardial infarction.

Uridil, Creighton Francis ⊕ Hastings, Neb.; Creighton University School of Medicine, Omaha, 1940; served during World War II; on the staff of Mary Lanning Memorial Hospital; died Nov. 1, aged 39, of injuries due to a motor car accident.

Waldren, George Richard ⊕ Cavalier, N. D.; Northwestern University Medical School, Chicago, 1927; served during World War I; died Nov. 25, aged 53, of a heart attack.

Warren, Benjamin Hopkins, Janesville, Wis.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1891; at one time health officer of Grosse Pointe, Mich., township; died recently, aged 83, of cerebral hemorrhage and arteriosclerosis.

Wilson, William Homer ⊕ St. Albans, W. Va.; Baltimore Medical College, 1898; served during World War I; formerly mayor; died Dec. 25, aged 77, of intestinal obstruction.

Winchester, Harold Eugene ⊕ Dunedin, Fla.; Harvard Medical School, Boston, 1916; served on the staff of the Morton F. Plant Hospital in Clearwater; died Nov. 29, aged 64, of cerebral hemorrhage.

Wrenn, John Alexander ⊕ Sulphur, Okla.; Washington University School of Medicine, St. Louis, 1935; member of the American College of Chest Physicians; died Dec. 20, aged 44, of a heart attack.

Wright, Charles Roy, San Francisco; Memphis (Tenn.) Hospital Medical College, 1911; died Nov. 10, aged 69, of coronary thrombosis.

GOVERNMENT SERVICES

ARMY

Symposium on Stress.—Human reactions to stress situations will be the subject of a three day symposium at the Army Medical Service Graduate School, Washington, D. C., on March 16-18. Thirty-one research scientists and physicians, including representatives from England and Sweden, will discuss physical and psychological stress factors. Some 300 military and civilian physicians have been invited to attend. Dr. John C. Whitehorn, psychiatrist-in-chief at Johns Hopkins Hospital, Baltimore, will open the symposium with a survey of the problems of stress. The first section of the program will deal with the physiological, endocrinological, and metabolic defense systems and their integration. Dr. Wallace O. Fenn, professor of physiology, Rochester University School of Medicine and Dentistry, will discuss the relationship of work and fatigue. The response of the pituitary-adrenocortical system to situations provoking stress will be discussed by Dr. George W. Thorn, physician-in-chief at Boston's Peter Bent Brigham Hospital, and Dr. Hudson Hoagland, executive director of the Worcester Foundation for Experimental Biology, Shrewsbury, Mass. Dr. Ulf Svente von Euler, of the physiology department, Karollinska Institutet of Stockholm, will describe the role of adrenalin and arteronol in stress. On the second day Dr. Henry Brosin, director, psychiatry department, University of Pittsburgh School of Medicine, will speak on the reciprocal relations between incentives, motivation, and strain in situations of stress. On the third day, different combinations of stress factors and the significance of their interaction in the care of patients will be presented. Dr. Ludwig Guttmann, director of the Spinal Injuries Centre at Aylesbury, England, will discuss the principles of rehabilitating men with wounds involving the central nervous system.

NAVY

Armed Forces Medico-Military Symposium.—The first annual Armed Forces Medico-Military Symposium under auspices of the Commandant, Ninth Naval District, will be held at the U. S. N. Hospital, Great Lakes, Ill., May 6-8, 1953. The program will provide the reserve and regular medical department officers with current concepts in varied fields of endeavor related to medical and dental services in the armed forces. The Chief of Naval Personnel has approved this symposium for the awarding of retirement point credit to Naval Reserve medical department officers attending under appropriate duty orders. Inactive Naval Reserve medical department officers residing in other naval districts and the Potomac River Naval Command who desire to receive retirement point credit for attendance should submit their request to the commandant of their home naval district. Officers on active duty may be given authorization orders in accordance with current instructions. The complete program and full information is available at the District Medical Office, Headquarters, Ninth Naval District, U. S. Naval Training Center, Great Lakes, Ill. Correspondence and inquiries regarding this symposium should be forwarded to that address.

AIR FORCE

Personal.—Lt. Col. Robert B. Lewis, head, department of pathology, Air Force School of Aviation Medicine, Randolph Field, Texas, addressed the Armed Forces Institute of Pathology, Washington, D. C., Dec. 4, 1952, on changes in skin tissues brought about by frostbite. Colonel Lewis recently received the Wellcome award from the Association of Military Surgeons for work on this subject.

PUBLIC HEALTH SERVICE

Cancer Survey of Philadelphia Area.—A survey just published by the National Cancer Institute describes the nature and extent of cancer in Philadelphia during 1948 as compared with 1938. The Public Health Service was assisted in the survey by the Philadelphia County Medical Society, the Philadelphia Hospital Council, and city, county, and state health departments.

In the Philadelphia area during 1948 a total of 18,282 cases of cancer were seen by physicians, compared to 13,185 cases in 1938. The incidence rate (cases first diagnosed during 1948) was 341 per 100,000, which was 26% greater than in 1938, while the prevalence rate (total cases treated) was up 21%. The greatest increase noted was for cancer of the bronchus and lung, for which the incidence rose 101% in the 10 year period. These apparent increases may have been due in part to better reporting by physicians, improvements in diagnostic and case finding methods, as well as an increase in the average age of the population, Dr. John R. Heller, director of the National Cancer Institute, explained. About half of the cancer cases diagnosed in 1948 were discovered while localized at the site of origin; 3 out of 10 were not diagnosed until after the cancer had spread to nearby tissues, and 2 out of 10 were not discovered until remote tissues had become involved. Only 35% of cancers of the digestive system were diagnosed while localized. The fact that less than two-fifths of breast cancer cases—an accessible site—were diagnosed while localized points to the need for improvement in case finding techniques for accessible as well as inaccessible sites, the survey indicated. In the Philadelphia area, of all cancer cases diagnosed early, while the disease was still localized, 81% survived 12 months. In cases not diagnosed until involvement of nearby tissues had occurred, 50% survived 12 months. In cases not diagnosed until distant spread of the disease had occurred, only 27% survived 12 months. Cancer illness rates for nonwhite persons in the area were appreciably lower than those for white persons. This difference is due in part to an apparently lower susceptibility of nonwhites to skin cancer. Among men in the Philadelphia area in 1948, the most frequent sites of cancer were the digestive system, 35% of all cases; the respiratory system, 14%; genital organs, 12%; and the skin, 11%. Among women the commonest were the digestive system, 27%; genital organs, 23%; and breast, 21%.

The Philadelphia survey is the tenth in a series covering 10 major cities, undertaken to provide current information on the nature, size, and distribution of cancer in the United States. These reports contain data important to public health officials, physicians, and others in planning programs of cancer control and research. The Public Health Service states that with the completion of the 10 reports, a United States summary, containing geographical comparisons, interpretations of apparent national trends, and special analyses not feasible for individual areas, will be issued.

Special Training in Cardiology.—Under the clinical traineeship program of the National Heart Institute of the Public Health Service, a total of 32 physicians are now receiving traineeships in cardiology and are studying in 25 institutions in various states. Since the inception of the program four years ago, 149 physicians have been given the opportunity to acquire special skills in diagnosing and treating heart disease. The majority of these physicians have completed their periods of study and are helping to relieve the serious shortage of physicians who understand techniques of interpreting electrocardiograms, carrying out cardiac fluoroscopy, and correlating various diagnostic findings. Traineeships carry stipends of $3,000 per year for trainees without dependents and $3,600 for those with dependents. Eligible for such special study are physicians who are citizens, who have completed a general internship, have at least one additional year of experience or training, and are not over 40 years of age. Applications for traineeships may be obtained from the National Heart Institute, Public Health Service, Bethesda 14, Md.

FOREIGN LETTERS

BRAZIL

Cotton as Suture Material.—According to research performed at Faculdade de Medicina of São Paulo, surgical cotton thread used as suture material in surgery does not cause allergic or immunologic reactions in the following instances: 1. Patients operated and reoperated on with cotton thread present no positive cutaneous reactions to cotton thread extract. 2. Guinea pigs treated repeatedly with cotton thread extract do not show sensitivity to them in anaphylactic shock, Arthus's phenomenon, intestinal or uterine contraction, and intradermal reactions. Patients allergic to cottonseed may be operated on with cotton thread as suture material, as no group specificity or cross reaction between the antigen of cottonseed and cotton thread was observed: 1. Patients allergic to cottonseed, with positive cutaneous reactions to cottonseed, present negative cutaneous reactions to cotton thread extract. In these patients the passive transference of reagins in the Prausnitz-Küstner test is negative to cotton thread extract and positive to cottonseed extract. 2. Cottonseed reagins are not neutralized by the cotton thread antigen. 3. Guinea pigs treated with cottonseed extract do not present sensitivity to cotton thread extract in anaphylactic shock, Arthus's phenomenon, cutaneous reactions, or contraction of the smooth musculature in Dale's test. The anatomicopathological findings of tissues sutured with cotton thread were the same in normal animals as in animals previously treated by repeated injections of cottonseed or cotton thread extract. The research was performed in the departments of experimental surgery and physiology by Drs. Vergílio Carvalho Pinto, Ernesto, Mendes, W. Beraldo, and G. Elejalde.

Carcinoma in Situ of the Cervix.—In the present state of knowledge, the only possibility of increasing the percentage of cures of cervical carcinoma lies in early diagnosis of carcinoma in situ, according to Dr. A. de Aquino Salles in a recent paper on carcinoma in situ of the cervix. Cytological examination of cervical and vaginal tissue is at present the surest and most practical method for routine identification in suspected cases. General use of cytological examination provides the best opportunity for detecting carcinoma in situ. Colposcopy, cytological examination of cervical and vaginal tissue, and biopsy are diagnostic means that complement one another, each ruling out the faults of the others. Final diagnosis of carcinoma in situ cannot be made by biopsy alone; detailed study of serial sections of the cervix by a pathologist is indispensable for final exclusion of invasion to underlying stroma or of the presence of multicentric foci. High amputation of the cervix may be done in young women who hope to conceive, with serial study, rigorous follow-up, and smear examination. When serial study is impossible and biopsy shows the slightest sign of carcinoma in situ, it is better to apply curietherapy followed by simple total hysterectomy four weeks later.

Cesarean Section Before and After Antibiotics.—Drs. J. Onofre de Araujo and B. Neme studied 830 transperitoneal low sections performed at the Obstetrical Clinic of São Paulo's University, under Prof. Briquet's direction, in order to demonstrate the value of prophylactic and curative use of sulfonamide and antibiotic drugs in puerperal infections. With this end in mind, the sections were divided into three groups: (*a*) 454 cases performed between 1931 and 1941 in which none of the cited drugs were used; (*b*) 161 cases performed between 1941 and 1945 in which sulfonamide drugs were used, 35 showing with controlled blood concentration; and (*c*) 215 cases, using sulfonamide drugs on 40 and the combination of sulfonamide drugs, penicillin, and streptomycin on the remaining 175. In order to compare the results in all groups Drs. Araujo and Neme divided their cases according to the grade of infection, present or suspected considering symptoms as hyperthermia, suppurative wounds, peritonitis, and lethal exitus as more indicative of the seriousness of the infection. An analysis of the results shows that antibiotics are excellent in prevention of puerperal infections and these medicaments should be administered as prophylactic in all cases, including the clinically pure ones. The authors outlined the prophylaxis of puerperal infection in the cesarean section as follows: 1 million units of penicillin and 2 gm. of dihydrostreptomycin in the abdominal cavity, followed by the administration of 400,000 units of procaine penicillin and 0.5 gm. of dihydrostreptomycin daily, until the fourth day of puerperium. In the suspected or infected cases the previous administration of antibiotics is considered indispensable, followed by the abovementioned treatment. With these measures now used as routine, the results are encouraging in the attack against puerperal infection.

LONDON

Tuberculosis in Mining Valley.—In the *British Medical Journal*, Oct. 18, 1952, page 870, is the report that members of the Pneumoconiosis Research Unit of the Medical Research Council have suggested that the disabling form of pneumoconiosis known as progressive massive fibrosis is a tuberculous lesion modified by the presence of coal dust. To test this theory the unit has begun a large epidemiological experiment in association with the Welsh Regional Hospital Board. The object of the experiment is to identify and render innocuous every source of tubercle bacilli in a Welsh mining valley, the Little Rhondda, and to see if there is subsequently a fall in the incidence of progressive massive fibrosis in miners known already to have radiological signs of simple pneumoconiosis. In the same issue of the journal Drs. A. L. Cochrane, J. Glyn Cox, and T. F. Jarman describe the first stage of this investigation. Such a task has not previously been seriously attempted in this country in a community of some 20,000 adults. The detailed problems of organization and the enormous amount of painstaking work involved in examining radiologically 90% of the adult members of the community are shown in the report. In a survey of this kind the good will of the public must be secured, and the careful groundwork of the Rhondda Fach investigators was remarkably successful.

At first sight it might seem that what has been completed is just another mass radiography survey of a specialized type; but, in fact, it is much more—an attempt to assess the total number of persons with tuberculosis in the selected community at the time of survey (the winter of 1950-1951). Among the women aged 15 years and over, 15.5 per 1,000 examined were recorded as having active or quiescent tuberculosis. Of the young women aged 20 to 24 years, more than 5% were found to be in need of treatment or supervision for tuberculosis. For the men of this community a strictly comparable figure cannot be given, since so many of them are miners with signs of simple pneumoconiosis or progressive massive fibrosis, the nature of which the experiment is designed to elucidate. The tuberculosis mortality rates for women in the Rhondda urban district are appreciably higher than those for England and Wales taken as a whole, but they are probably no higher than in many industrial towns. It seems probable that the amount of tuberculosis in the Little Rhondda is not very different from that in many other urban communities at the present time.

This survey also shows the hidden danger of unknown sources of infection. Of 68 women with positive sputum, 22 were previously unknown; of 54 men with positive sputum, 15 were previously unknown. Thus, for both sexes combined, no fewer than 30% of those with positive sputum were not previously known to be suffering from tuberculosis. Of all the patients with active disease, 40% were previously unknown. It would seem not unreasonable to suppose from this that in Britain as a whole a large proportion, perhaps 25%, of those with infectious disease are not known and are not under any form of supervision or treatment. The need for highly efficient case-finding services is

The items in these letters are contributed by regular correspondents in the various foreign countries.

thus obvious, especially in the light of the increasingly effective forms of treatment that can now be offered.

In order to treat the patients whose disease was discovered during this survey, the Welsh Regional Hospital Board set aside 54 beds in a local hospital, and it is believed that the number of cases of infectious pulmonary tuberculosis in the Little Rhondda has been reduced by 60%. The infectious patients still in the valley are under frequent supervision by a health visitor. The results of the survey also shed some light on the epidemiology of tuberculosis in recent years. Drolet and Lowell have recently asserted that mass radiography has no effect on notification rates, since all the cases found would become known sooner or later. The answer to this lies in the notification register of the Little Rhondda during the period of the survey: it must have shown a notable increase, without any increase in the real prevalence of the disease in the community. Similarly, the introduction of mass radiography together with the ever-increasing number of films taken in chest clinics and hospitals may be the explanation of the postwar rise of the notification rate in this country. There is now evidence that the size of the pool of unknown cases was, even in 1950 at the end of the rise, still large enough to account for the increase in notification, which was on the order of 25% over prewar figures. The next step of the Rhondda Fach investigation, a similar survey of the valley in 1953, should add yet more to the knowledge of the epidemiology of tuberculosis.

Woodberry Down Health Center.—The new health center on Woodberry Down Housing Estate, a thickly populated area of North London, was opened in October. Six general practitioners, two dentists, one pharmacist (part-time), and two nurses will eventually work at the center. The other services to be provided include antenatal, school health, and child welfare. Space is provided for an x-ray plant, but it will, at present, house only dental x-ray apparatus. Each physician has an examination room and a consulting room. There is a large common room where the physicians may meet each other and members of the public health medical staff visiting the center. The cost of erection was about $456,400, which includes provision of a day nursery and child guidance clinic. The annual cost to a family physician is $980.

MEXICO

Use of Gamma Globulin to Control Poliomyelitis.—The Centro de Estudios sobre la Poliomielitis, on a private financial support basis, with the collaboration of Drs. L. Gutiérrez Villegas, C. Campillo, J. Laguna, and R. Rizo, obtained pure gamma globulin from 200 liters of blood. Part of it was used to inject 1,600 children 5 months to 6 years old, representing 47% of that age group in the City of Colima, with an estimated population of 25,000. In July, 1952, there were 10 cases of paralytic poliomyelitis in this city. The children received 21 mg. of the globulin per kilogram of body weight. In four days the injection program was over. After the immunization, one more case of paralytic poliomyelitis was observed in the control group and none in the experimental group. Although the extent of the observation is small and no exact conclusions could be drawn due to the lack of previous records of the disease in that locality, the Centro de Estudios sobre la Poliomielitis is planning to carry out larger field experiments in the future. Besides these facts, it is of interest that the same investigators found a good titer of neutralizing antibodies in the blood of more than 400 young adults in Mexico City and Colima: an average titer of 52.8 PD_{50} was found when tests in mice, using the Lansing strain, were performed. Of 200 children from 6 to 24 months old in Mexico City who were surveyed, 45% showed fair amounts of neutralizing antibodies in their blood.

Death of Professor González-Enríquez.—Prof. Raúl González-Enríquez died in October, 1952, at the age of 46. For more than 20 years he was psychiatrist at the General Insane Asylum of Mexico City, and under his guidance the observation department of that institution came to be an important center of investigation and teaching. He was professor of psychiatry at the Universidad de México and at the Instituto Politécnico Nacional, head of the department of psychology at the School of Philosophy and Literature of the Universidad Nacional, and founder and director of the Clinic of Neuropsychiatry (Seguro Social). Very recently he was the principal organizer of the Latin American Psychiatric Association, which was founded in 1951 and of which he also was its first director. The studies of Professor González-Enríquez were summarized in two books and in 111 papers and communications to the many scientific societies, Mexican and foreign, of which he was a member.

Last October he undertook a trip with some of his students from other Latin American countries to study the psychological aspects of the archaeological ruins of Tajin, near the Gulf of Mexico; afterwards the group went to the coast. They were last seen at the crossing of a river, where they were traveling in a little open boat. As a storm was raging at the time, it was supposed that the boat was dragged to the open sea where it capsized.

SWEDEN

Incidence of Homosexuality.—Reference has been made in THE JOURNAL (147:1593 [Dec. 15] 1951) to studies on the frequency of homosexuality as judged by observations made at the psychiatric department of the Sahlgrenska Hospital in Gothenburg. These investigations showed a homosexual rate much lower than that found by Kinsey (37%). This first series of 100 consecutive cases has now been supplemented by a second series of 100 consecutive male psychiatric patients observed by Dr. Bengt J. Lindberg, between the end of 1951 and the spring of 1952. Each patient was examined by two psychiatrists, the questions concerning sex habits being included unobtrusively among other questions so as not to concentrate attention on these habits. One of the interviews was conducted under narcoanalysis effected by an intravenous injection of amobarbital sodium in a dose of 0.25 gm. to 0.45 gm., according to the patient's weight.

Though these injections undoubtedly helped to promote spontaneity of speech, they did not increase the information obtained with regard to sex habits. The figures for the two series of 100 cases each were much the same, showing a definite homosexual rate of only 1% and a casual and sporadic rate of 4%. The drugged group showed a normal heterosexual rate of 93% as compared with 90% for the patients not given amobarbital sodium. Dr. Lindberg concludes that narcoanalysis does not add much to the findings of an ordinary psychiatric examination. He also argues that there is no available information to indicate that psychiatric patients show a homosexual rate differing from that of mentally normal Swedes. In other words, his findings of a comparatively low homosexual rate may well be taken to indicate the true state of affairs in the nation as a whole.

Settlement of Claims Against Physicians.—The semiofficial body known as Läkarnas Ansvarighetsnämnd (Physicians' Responsibility Committee) serves a useful purpose in handling claims made by irate patients against their physicians. The organ of the Swedish Medical Association, *Svenska Läkartidningen*, in a recent number devoted many pages to a detailed account of the claims made against physicians in 1951. Here are two examples showing failure and success, respectively, in dealing with such claims. The first claim was made by a woman, aged 30, who fell and hurt her shoulder during an epileptic attack. Shortly afterwards she consulted a physician whose examination yielded no objective neurological findings. She complained that her right shoulder had hurt since the fall, but when the physician suggested a radiological examination she declined. He then prescribed treatment by an expert in gymnastics, who reported after some time that muscular atrophy had developed in the shoulder, whereupon the physician sent her to a hospital where a dislocation of the shoulder joint was discovered and closed reduction effected. Meanwhile, five months had elapsed and the patient put in a claim against the physician. The matter was referred to a specialist whose report was unfavorable to the physician. Damages were awarded against him, largely because he continued to treat the patient even though

she refused a radiological examination. By continuing to treat her he had rendered himself responsible for the failure to subject her to a radiological examination.

The second case, in which the action of the physician was vindicated, was that of a woman who fell while skiing, driving her left thigh against a branch of a tree. A physician found, on the day of the accident, a puncture wound, which he explored with a probe without finding any foreign body. He then cleaned the wound and sutured it. Some weeks later a large hematoma was discovered and evacuated. Thereupon she traveled abroad and underwent an operation at which a splinter of wood, 7 cm. long and 7.5 mm. in circumference, was found in her thigh. Her claim for a sum to cover the cost of the operation was rejected, since it was pointed out that there had been no direct evidence of a foreign body in her thigh at the time of the accident, that the discovery of a foreign body in the muscles of the thigh would have been very difficult, and that a search for it would have entailed certain risks.

Overcrowded Hospital Waiting Rooms.—The dreary spectacle of patients wasting their time in the outpatient departments of hospitals has led Dr. W. Behrman, of the ear department of the Helsingborg Hospital, to devise a system that he has successfully introduced into the Kronprinsessan Lovisa's Vårdanstalt, which some 20,000 persons attend every year. This clinic is staffed by two physicians, who are in attendance on alternate days, and a receptionist, who is on duty every day from 9:00 a. m. to 6:00 p. m. Every first contact between patient and hospital is made by the receptionist, a notice appearing in the local telephone directory informing any patient who wishes to attend the clinic to make an appointment in advance. The clinic is open for five to six hours, the first two of which are reserved for the first appointments arranged by the receptionist. The third hour is devoted to return cases, the date for which is fixed by the physician who gives the patient a card showing the exact date and hour of the day on which he or she is to return. The fourth hour is reserved for only a few appointments, so as to provide for any necessary readjustment of the schedule, more return cases, and any new case that may turn up. A notice is put up in the waiting room when the schedule can not be met. Under this system, which has now been in operation for a couple of years, the waiting list has been successfully abolished, and it is suggested by Dr. Behrman that his system may be adopted with profit by other Swedish clinics.

TURKEY

The Twelfth National Medical Congress.—The main topics of the Twelfth National Medical Congress held at Istanbul University from Sept. 29 to Oct. 3 were rheumatic diseases, child health, and isoniazid therapy in tuberculosis. Papers were read on splenorenal anastomosis in portal hypertension and recovery of 10 patients with cancer of the esophagus after surgical intervention by Ord. Prof. Fahri Arel and Dr. Nihat Dorken, and repair of congenital diaphragmatic hernia with a plastic muscle by Prof. Fahri Arel and Dr. Tarik Minkari. Other papers were read on corticotropin (ACTH) therapy in Sydenham's chorea and chorea of pregnancy by Prof. Necmeddin Polvan and on rheumatoid arthritis deformity of the hip joint by Ord. Prof. Akif Shakir Shakar. Results of experiments with new antibiotics in the treatment of trachoma were reported by Ord. Prof. Naci Bengisu and Dr. Necdet Sezer, and Dr. Sezer also reported on experiments with epidemic keratoconjunctivitis virus and an investigation of the cause of Hulusi Behdjet disease. Assistant Professor Kemal Rushdü Akgüder, pathologist, and Dr. Shemsi Gök reported three cases of malignant genital teratoma, three cases of bronchial cancer of special pathogenic interest, a case of pulmonary anthrax with meningitis complication, three malignant tumors of the hemolytic system that were atypical because of location and development, a case of an atypical fibrous meningioma, and a case of syphilitic pulmonary arterial stenosis. Prof. Nusret Karasu and Dr. Needet Menemenli discussed isoniazid therapy in tuberculosis, and Prof. Karasu also read a paper on the value of one tuberculosis hospital for each million inhabitants. Dr. Nezihe Enacar read a paper on streptokinase and streptodoranse, and Prof. Paul Pulewka, Dr. Sükrü Kaymakçalan, and Dr. Dündar Berkan reported on an increase in local anesthesia toxicity in animal experiments in hot climates. Dr. Zeki Köseoglu, Dr. Muzaffer Dilemre, Dr. Cebire Betagen, and Dr. Husseyin Settarzade reported on experiments with intravenous injection of *p*-aminosalicylic acid in the therapy of tuberculosis and Dr. Hasan Damar on changes in the electrocardiogram during surgical interventions in the heart. Dr. Feridun Timur reported a case of 18 amputations on the lower and upper extremities, a case of ascariasis with resultant perforation of the intestines and peritonitis, and a case of neuroma on the vagus nerve of the neck that developed into neurofibromatosis. Dr. Fahri Ayhan discussed oral cortisone therapy in rheumatoid arthritis, and Drs. Chukrü Hazim Tiner and Omer Dürüşken reported an investigation and analysis of Huntington's chorea in Turkey. Assistant Professor Djihad Abaoglu and Dr. Lutfi Atay reported studies on cardiovascular reserve in wrestlers and Dr. Ali Sirmen results of experiments with histoplasmin in Ankara. Drs. Djihad Abaoglu and Vahe Aleksanyan reported two cases of wandering pacemaker. Dr. Salaheddin Akel discussed total prostatectomy for cancer, and Dr. Ismet Sayman paradoxal subpleural emphysema in pneumothorax. A paper on pulmonary tuberculoma was read by Assistant Professor Salaheddin Akkaynak and Dr. Galip Urak, who also reported on the favorable results obtained in 40 thoracoplasties. Dr. Ragip Uner reported on the presence of tubercle bacilli in the mouths of tuberculosis hospital personnel. Prof. Mufide Küley, Dr. Kemal Akgüder, and Dr. Shemsi Gök reported a case of congenital isthmus in connection with an arterial interventricular defect. Dr. Nejad Kulakcl discussed favorable results of removal of adenoid vegetations in cases of nocturnal enuresis and Drs. Ilhan Vidinel and Hanri Nalbantoğlu reported the results of BCG vaccination in the Ankara Necatibey Primary School during the past year. Assistant Professor Kamil Akol read a paper on ectopic pregnancies at term, and Dr. Zeki Türker a paper on two vein grafts. Dr. Osman Barlas presented a communication on the case of an adult with basophil leukemia in which radiotherapy was unsuccessful.

Sympathectomy for Thromboangiitis Obliterans.—In *Klinik*, the monthly medical periodical of Bursa, Dr. Ibrahim Öktem, medical director and chief of the surgical department of the Bursa General Hospital, published his observations on 276 cases in which he performed sympathectomy during 20 years for the juvenile type of thromboangiitis obliterans. No operations were done for the infectious, senile, and diabetic types. Of the 276 patients, 98% were men 20 to 40 years old, and 70% of these were 30 to 40 years old. Obvious causes for the condition were not evident; 90% of the patients were heavy smokers, 32% had had mild or severe frostbite, and only 5% had syphilis. All of the patients had lesions in the lower extremities; lesions in the arteries of the upper extremities were of the type seen in Raynaud's disease. Sustained coldness and fatigue in the legs, with intermittent claudication were present in 65% of the patients, and in 35% the symptoms were of relatively recent onset. In 65% of cases there were vasoconstriction, spasm, ischemia, and gangrenous areas of various sizes on the feet and legs. In 50% of cases it was necessary to resort to amputation without delay. Subperitoneal lumbar sympathectomy was done prior to the amputations in all cases. Before second surgical interventions on the same patient an interval was allowed to elapse in 30 cases. Arteriosympathectomy was performed on 20 patients, with mortality of 4%. Two patients died of embolism and two of pulmonary complications. Amputation was later indicated in 24 of the patients after sympathectomy had been done, and in 32% minor amputations were performed. The remainder of the patients in whom sympathectomy was done obtained symptomatic relief and were discharged. In 90% of the patients the pain subsided within a few hours of the amputation and the legs felt warm, but in 8% there was no improvement. As most of the patients lived in outlying rural districts, follow-up examination was possible in only 10%, but in these improvement has been maintained. Patients who cannot be benefited by this method and those with thrombovenous and ascendant lymphangitis, infected ulcers, and generalized gangrene were treated by medical means. In these patients there was symptomatic improvement and less indication for amputation.

CORRESPONDENCE

HISTORY OF JAUNDICE AMONG PROSPECTIVE BLOOD DONORS

To the Editor:—In order to minimize the spread of viral hepatitis through transfusions of blood or plasma, the medical history section of the donor registration card used in the Red Cross Blood Program includes the following two questions: 1. Have you ever had jaundice? 2. Have you had jaundice contact within six months? For the purpose of determining the number of persons eliminated for those reasons, figures covering the two week period beginning March 24, 1952, were procured from Red Cross blood collection and processing centers located in 59 regions distributed from coast to coast. During the period specified, 199,820 persons came to give donations of blood, of whom 1.71% reported a past jaundice and 0.23% an exposure to jaundice within six months (see table). A combined rejection rate of 1.94% for the two reasons compares with an aggregate rate of 14.6% for all medical reasons in the same period.

Rejection of Blood Donors Because of Exposure to or History of Jaundice†*

Red Cross Area	Prospective Donors, No.	Persons with History of Jaundice		Persons Exposed to Jaundice	
		No.	%	No.	%
Eastern	97,077	1,599	1.65	228	0.24
Southeastern	25,939	362	1.40	107	0.41
Midwestern	49,435	957	1.94	108	0.22
Pacific	27,369	490	1.79	24	0.09
All areas	199,820	3,408	1.71	467	0.23

* Exposure to jaundice within 6 months was reason for disqualification.

† Data are based on the two week period beginning March 24, 1952.

The finding that jaundice history and contact induced the disqualification of about 2% of the registrants conveys no information regarding the actual incidence of jaundice, because persons who were ill did not come for donations; moreover, in some communities self-screening resulted from publicity given to the rule that a history of jaundice would be a barrier to acceptance. The above proportion pertains, however, to a large number of persons who were apparently well at the time they sought to donate. Such persons represent an important additional supply of blood fractions if proper precautions are taken to avoid risks to staffs handling the blood and to the ultimate recipients of the fractions.

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ROENTGENOGRAPHY AND ASTHMA

To the Editor:—The article "New Roentgenographic Technique in Bronchial Asthma," by C. Jiménez Díaz and associates in the Nov. 29, 1952, issue of THE JOURNAL, page 1297, is an interesting contribution. The technique described may indeed help in diagnosis of different pulmonary conditions. However, the authors did not mention that roentgenographs of different stages of respiration are in some cases insufficient and misleading in giving a picture of the movements of the diaphragmatic leaves and of the amplitudes of that movement. The reason is that rather frequently asthmatic patients are not able to "hold" the diaphragm in either the inspiratory or the expiratory position. Therefore, roentgenographs believed to have been taken with the patient in one of these positions will not show any or only a slight difference in the levels of the diaphragm in patients who reveal an excellent motility of the diaphragmatic leaves by another method of examination.

In such cases, a fluoroscopic study of the diaphragmatic movements, allowing control of these movements by the eye, gives reliable information. With a skin pencil we can easily hold fast the inspiratory and expiratory levels of the diaphragmatic leaves on the screen (movement sketch). These facts have been revealed to me during the study of many patients by roentgenographic and fluoroscopic examinations. Consequently, I advise making roentgenographs as well as "movement sketches" during fluoroscopy of the diaphragm in any person in whom the diaphragmatic motion is to be studied.

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OUR HIGHWAY FATALITIES

To the Editor:—American medicine has paid slight attention to motor traffic accidents. In almost all other dangerous occupations medicine has instituted health conservation and accident prevention measures. We as physicians take little interest in either the cause or the cure. We have become calloused and seem to think that this is no part of the responsibility of medicine.

In the 50 some years of the automobile era we have lost more than a million lives in automobile traffic accidents, more probably than we have lost in all our wars since the first settlement in America. In 1950 there were 35,000 killed in motor traffic accidents. In 1951 there were 37,000, to say nothing of more than a million persons injured, many permanently. One of the casualty companies predicts that the number killed will increase markedly each year unless something drastic is done to prevent it.

The traffic death rate for the whole United States, based on 100 million automobile miles traveled is 7. Some of the states have a much lower rate than this and some much higher, as seen in the following tabulation.

Rhode Island	2.2	South Carolina	12.4
Connecticut	2.9	New Mexico	10.5
Massachusetts	3.4	Nevada	10.4
New Hampshire	3.4	Arizona	9.9
New Jersey	4.4	Alabama	9.4
Maine	4.4	Kentucky	9.4
Vermont	4.4	Louisiana	8.8
Minnesota	4.5	Georgia	8.3
Iowa	5.1	Montana	8.1

In Virginia the death rate is 7.8. We have been taught by the "higher ups" that automobile accidents were all due to the individual driver and that as soon as he was taught to drive carefully we would have a low death rate. Our citizens have done everything possible in the line of educational efforts; however, under this teaching there was no improvement. In 1949 we had 810 deaths; in 1950 there were 915 deaths. In 1951 the number jumped to 999.

In 1952 the governor of Virginia, John S. Battle, used every effort possible to change this situation, and with new laws and better enforcement we had about 50 deaths fewer in 1952 instead of the usual increase. This is fine work, but even with this reduction our rate is too high, still being twice as high as some of the other states. Good or bad roads do not seem to play too great a part. The state with the very best roads may have the highest death rate.

With this tremendous loss of life every effort should be made to solve the problem. We should make an over-all study of the various states and compare them to see why they have different rates and to see how the high rate can be lowered. Unfortunately, we cannot enforce standards on the various states, such as we have with hospitals, medical schools, and physicians. Possibly it might be brought about that the various states would take

pride in having good traffic safety and advertise this as an inducement to tourists, as well as the attraction of the climate, the seashore, the lakes and the mountains. We see signs on tourist cabins that they are approved by the American Automobile Association. It would be much more important to have a state advertise that it is "Approved by the A. A. A. because of a good traffic record." Or we might point out to all the travelers the traffic safety records in the various states in order that he might avoid those with high traffic death rates. It is a crime not to tell them.

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MITRAL COMMISSUROTOMY DURING PREGNANCY

To the Editor:—The article entitled "Mitral Commissurotomy During Pregnancy" by D. A. Cooley, M.D., and D. W. Chapman, M.D., in THE JOURNAL (**150:**1113 [Nov. 15] 1952) advocates heart surgery at varying stages of pregnancy in class 3 and 4 rheumatic heart disease patients. The impression is given that mitral stenosis is hazardous and "in favorable cases (functional classes 1 and 2), in which cardiac decompensation is uncommon, the maternal mortality approaches 40 to 50%. . . ."

In our laboratory we have been conservative in recommending this procedure to patients because of the still unproved long-term result and the operative mortality rates, which are given as high as 15% by Bland in his review of 352 patients (Surgery for Mitral Stenosis: A Review of Progress, *Circulation* **5:**290, 1952). In pregnancy maternal mortality with rheumatic heart disease is usually given as 3% (Hamilton: Rheumatic Heart Disease in Pregnancy, *Bull. New England M. Center* **8:**262, 1946); 3.1% (MacRae: Heart Disease in Pregnancy, *J. Obst. & Gynaec. Brit. Emp.* **55:**184, 1948); 1.5% (Lesse: The Prognosis of the Cardiac Patient in Pregnancy, *Am. J. Obst. & Gynec.* **56:**477, 1948); or 1.3% (Stromme and Kuder: Heart Disease in Pregnancy, *Am. J. Obst. & Gynec.* **52:**264, 1946). The symptoms in the Cooley and Chapman patient during pregnancy were limited apparently to fatigue and dyspnea, and the normal pulmonary artery pressure and cardiac output by catheterization would have led us to recommend nonoperative care. The favorable results obtained are most commendable, but, if similar indications are widely applied, it seems likely that maternal and fetal mortality will be higher than with conservative management.

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ILEOSTOMY CLUBS

To the Editor:—Although I am reluctant to enter into controversy in the pages of THE JOURNAL, I do feel that some comments should be made on Dr. W. Z. Fradkin's letter in the Dec. 20 issue (page 1621), lest some physicians in the country be discouraged from forming ileostomy clubs and thus lose an opportunity for rehabilitating patients who have undergone ileostomy.

As I summarize Dr. Fradkin's letter, there were three principal misgivings expressed. 1. The club will encourage other surgeons to perform more colectomies than are indicated for ulcerative colitis. My answer to this is that ileostomies were performed in large number long before an ileostomy club was established. The problem of when to do an ileostomy is a separate question, beyond the scope of my original communication in the Oct. 25 issue (page 812). I share the desire of Dr. Fradkin and of most physicians and surgeons to treat the patient with ulcerative colitis successfully without recourse to surgery. However, that ileostomy must be performed for the severe complications is admitted by Dr. Fradkin and attested to by the large number of reports from various centers throughout the country. Whether Dr. Fradkin is correct in considering these complications rare is not the question at issue.

2. "A colectomy for chronic ulcerative colitis is indicative of poor medical management prior to surgical intervention." I emphatically disagree that patients who do not respond to medical therapy have been treated poorly or "with impatience." In the best of hands there is some mortality and there are some complications. I agree that we should direct our resources toward the early treatment and prevention of ulcerative colitis, but, when ileostomy is done, let us not consider that "an ileostomy for such a patient is something to hide and not to organize clubs with," as Dr. Fradkin suggests. It would be a cruelty to look on persons who have undergone ileostomy merely as failures—or successes. They are persons whose need for practical management and support must be filled, no matter what one's personal attitudes or prejudices may be. Let us help them to adjust, not hide. 3. The ileostomy club, instead of minimizing the handicap, focuses more attention, for "ileostomy friends are not desirable contacts for ileostomy patients." In the past, many of the present club members had sought in vain for someone else who had undergone ileostomy from whom they could obtain useful information. Minimizing the handicap—as with amputees—is achieved more easily by knowing that many others have overcome the same limitations and by learning from others how best to manage one's own difficulties. The patient is more effectively encouraged to carry on normal existence when he sees about him others with the same handicap who engage in normal social, sexual, and economic activities.

I can assure Dr. Fradkin that his fears have not materialized in our experience, that on the contrary patients whose adjustment and mechanical difficulties at one time seemed almost impossible have responded rapidly and successfully through the efforts of the ileostomy club. I invite him and all other physicians interested to attend one of our meetings.

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EXAMINATIONS FOR ATHLETES

To the Editor:—With reference to the editorial in THE JOURNAL, Dec. 13, 1952, page 1480, "Medical Examinations for Athletes," all physicians will be interested to know that a committee of distinquished citizen-experts has been working on this problem for some time, with the American College of Cardiology acting in an advisory capacity. This eight-member committee has been conducting a nationwide study of the medical side of sports with the active cooperation of 15 colleges and universities.

Members of the Study Committee are Grover W. Mueller, Chairman, director of the Division of Physical and Health Education, Philadelphia Public School; A. A. Esslinger, Springfield College; William L. Hughes, Temple University; Lloyd M. Jones, the Pennsylvania State College; Jay Kistler, Louisiana State College; C. H. McCloy, State University of Iowa; Elmer D. Mitchell, University of Michigan; and William K. Streit, Cincinnati Public Schools.

Participating institutions at the present time are: Gettysburg College, Indiana University, Louisiana State College, Michigan State College, Springfield College, Syracuse University, Temple University, the University of Chicago, the State University of Iowa, the University of Pittsburgh, the University of Alabama, the University of Cincinnati, the University of Michigan, the University of Southern California, and Pennsylvania State College. Plans are under way to include additional institutions in the near future.

There must be many physicians throughout the land, both prominent and relatively unknown, who have treated athletes and who would be delighted to add their findings to the important records being gathered by the committee. Facts being sought include incidence of athletes who have died, and age, cause of death, and autopsy findings, if any. Information should be recorded in detail and sent to the committee's chairman, Grover W. Mueller, Board of Education, 21st and Parkway, Philadelphia. Accumulated records, when complete, will be available for further study and reference at the Valley Forge Heart Institute and Hospital, Fairview Village, Pa.

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COUNCIL ON MEDICAL SERVICE

HILL-BURTON ACT

According to a recent study by the Council on Medical Service, the Hospital Survey and Construction Act of 1946, more commonly known as the Hill-Burton Act, is achieving a considerable expansion of the country's hospital facilities. By July, 1952, when the act had been in effect six years, 1,827 projects, with an estimated cost of $1,417,757,580, had been approved, of which 950 were already in use. When completed, these projects will add 88,164 hospital beds to the nation's total, as well as providing either new construction or remodeling and replacement of 289 health centers and 58 combined health centers and general hospitals. The act is not expected to provide all new hospital facilities but is certainly an aid in construction where it is most needed and where local income is too small to meet the entire cost. On the average, federal grants amount to about one-third of construction costs, although larger percentages are allowed for low-income states. Thus, the program gives proportionately greater aid to hospital construction in rural and low-income areas, where such facilities are least adequate.

Federal control of the program has been kept at a minimum, both in the act and in actual practice. Certain standards have been set as to the maximum amount of federal participation in the project, based primarily on population and population density; architects' plans must be approved by the U. S. Public Health Service, and evidence must be provided that the project, once built, will be self-supporting and provide adequate service; however, surveys of state needs and resources, planning, construction priorities, and allocation of funds are almost entirely in the hands of the state planning boards.

The program provides funds not only for new construction but also for expansion, remodeling, or replacement of existing facilities. Of the 1,827 projects approved, 1,092, or approximately 60%, are for new construction. This includes 760 hospital projects, 6 state health department laboratories, 190 public health centers, 86 auxiliary health centers, and 50 combined general hospital-health centers. The 735 projects for expansion, remodeling, and replacement include 705 hospital projects and 30 in the other categories. A total of 395, or a little over one-fifth of the projects, are for such "adjunct facilities" as laboratories, nurses' homes, and outpatient departments. Of this total, 103 are "new construction" projects and 292 have to do with alteration or replacement of existing facilities.

The great majority of the approved projects are for hospital construction, 1,465 of the 1,827, and of these 1,297, or 88.5%, are for general hospitals. Other hospital projects approved are for 55 tuberculosis units, including 26 new construction projects; 87 mental hospitals, including 20 new construction; and 26 chronic disease units, including 14 that are new construction.

The emphasis on general hospitals is noteworthy, since this type of hospital is much needed, especially in rural sections. A large proportion of general hospital new construction is located in such areas; over half the projects are located in 14 southern and western states, most of which are predominantly rural; for example, the six southern states of Alabama, Florida, Georgia, Louisiana, Mississippi, and North Carolina have a total of 167 such projects and the three rural states of Arkansas, Iowa, and Minnesota have 72. Projects for expansion or replacement of existing general hospital facilities, on the other hand, are proportionately commoner in the industrialized northern states, where hospital facilities are generally more adequate. Connecticut, Massachusetts, and Pennsylvania, for instance, have only 20 new general hospital projects but have a total of 95 projects for changes in existing hospitals. The majority of the new construction for tuberculosis and mental hospital projects are also located in rural or southern states; distribution of chronic disease hospital projects, however, does not show a significant emphasis on any section of the country. In general, new construction is commoner in poorly supplied areas, while replacement and expansion occur oftener in areas with comparatively adequate hospital facilities.

About 65% of the new construction general hospital projects are for 50 beds or less; some 15% of these for 20 beds or less, with the remaining projects almost equally divided between 21 to 30 beds and 31 to 50 beds. Nearly all the projects of 30 beds or less are located in southern or rural states, as are a majority of those with 31 to 50 beds; however, the larger projects, those of over 50 beds, are widely distributed and are located in both urban and rural states.

Surveys of the individual states, conducted by state planning boards, divided each state into "base," "intermediate," and "rural" areas, using the number of residents, population density, and available medical facilities as a basis. Tabulation of the projects by area shows 853, almost half, are in areas classified as rural, while 616 are in intermediate areas. Three hundred and fifty-eight are located in base areas, including those projects that serve an entire state. Of 700 new construction general hospital projects, 457, about two-thirds, are located in rural areas. Both in the nation as a whole and in each state more new construction general hospital projects are located in rural than in intermediate and base areas, which are progressively more urban in character.

Over half the projects are already in use; only 6% are still in the planning stage. All projects approved prior to fiscal year 1952 are either in use or under construction; even of the 209 approved that year, 2 are already in use and 104 are in the construction stage. Apparently, rapid progress has been made; projects not only have been allocated for areas where they are most needed, but also are being put into service with commendable promptness.

MEDICAL MOTION PICTURES

Anemia: 16 mm., color, sound, showing time 28 minutes. Prepared by William Dameshek, M.D. Produced in 1952 by Fordel Film Laboratories, New York, for and procurable on loan from E. R. Squibb & Sons, 745 Fifth Ave., New York.

A series of cases of anemia showing several distinct entities, such as anemia associated with carcinoma of the cecum, pernicious anemia, acquired hemolytic anemia, congenital hemolytic anemia, iron deficiency anemia, and hypoplastic anemia due to benzol, are presented. Their clinical manifestations and laboratory findings are reviewed and emphasized, and the treatment is discussed. Emphasis is placed on the necessity of the physician who treats anemia and blood diseases in general to consider the examination of the blood smears as part of the physical examination and not to leave it entirely to the laboratory. That is as it should be.

There may be some who will question the somewhat arbitrary presentation of therapy. The success of vitamin B_{12} is presented emphatically, although those experienced in the treatment of pernicious anemia may have some doubts as to whether this can be stated with such finality. This applies particularly to the remarkable improvement of central nervous system manifestations. The film is well organized. The photography is satisfactory, and the narration is excellent. The "split frame" technique of showing cases before and after treatment simultaneously on the screen is especially well done. The film can be recommended for medical students, interns, general practitioners, and nurses.

FOURTH SUPPLEMENT TO MOTION PICTURE REVIEWS NOW AVAILABLE

The Committee on Medical Motion Pictures has completed the fourth supplement to the booklet entitled "Reviews of Medical Motion Pictures." It contains all the film reviews published in THE JOURNAL, from January to December, 1952. The purpose of the reviews is to provide a brief description and evaluation of motion pictures available to the medical profession. Each film is reviewed by competent authorities. One copy of the supplement has been mailed to the secretary of each state medical society. Copies are available to county medical societies on request from the Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn St., Chicago 10.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

American Journal of Ophthalmology, Chicago

35:1407-1572 (Oct.) 1952

*Pathology of Early Retrolental Fibroplasia, with an Analysis of Histologic Findings in Eyes of Newborn and Stillborn Infants. A. B. Reese, F. C. Blodi and J. C. Locke.—p. 1407.
*Retrolental Fibroplasia: A Survey. L. Zacharias.—p. 1426.
Group Study of Diabetes and the Eye. I. Givner.—p. 1454.
Buried Sutures for Closure of Cataract Incision. W. Roberts.—p. 1459.
Study of Anterior Angle in Anterior-Segment Inflammation of Eye. D. Kravitz.—p. 1463.
What Do the Color Blind See? Report on Monocular Color Blindness. M. Bodian.—p. 1471.
Is There Any Predilection of Left Eyes for Glaucoma? K. W. Ascher and W. M. Spurgeon.—p. 1480.
Di-Isopropyl Fluorophosphate (DFP) in Cycloplegic Refraction. G. De Ocampo.—p. 1484.
Spectacles for Hemianopia: Clinical Evaluation. T. A. Burns, W. J. Hanley, J. F. Pietri and E. C. Welsh.—p. 1489.

Pathology of Early Retrolental Fibroplasia.—Reese and associates describe microscopic studies in 10 cases of acute retrolental fibroplasia in infants that died from 41 to 125 days after birth. Prior to death in each case the eyes, with pupils dilated, had been examined repeatedly with the ophthalmoscope, and the presence of early retrolental fibroplasia was definitely established. Retrolental fibroplasia had been present in these infants for from 7 to 84 days. Summarizing their observations on these 20 eyes, the authors say that retrolental fibroplasia follows a well-defined pattern. The process is at first confined to the nerve-fiber layer of the retina in the equatorial region, and consists of a diffuse thickening due to small nests of endothelial cells and an increase of the glial elements. These changes were not appreciated clinically, only the accompanying tortuosity and dilatation of the retinal vessels being seen. The proliferated endothelial cells canalize and break through the internal limiting membrane. Near the affected area is marked edema of the nerve-fiber layer. As the disease progresses, canalization of the endothelial nests increases. Hemorrhages occur from the newly formed vessels, and then organization, contracture, and folding of the retina begin. Masses of angiomatous tissue creep between the retina and the hyaloid membrane of the vitreous and then invade the vitreous proper. Ultimately, the greater part of the retina becomes involved and is folded and detached by contracture. Secondary complications, such as glaucoma, ensue. In a collateral study the authors examined histologically 458 eyes of stillborn infants or of premature infants who died a few hours to a few days after birth. Lesions identical with the early stages of retrolental fibroplasia were observed in two sets of these eyes. Thus the matrix of retrolental fibroplasia may be present at birth, but it is the exception and not the rule. The authors conclude that the basic pathological process in retrolental fibroplasia is neovascularization, which extends from the retina toward the vitreous.

Retrolental Fibroplasia.—Zacharias reviews 219 papers on retrolental fibroplasia. He feels that many of the possible etiological factors discussed in these papers (for example, anoxia, edema) were operative when the disease was still relatively rare. If one accepts the fact that the rise in incidence of retrolental fibroplasia has been higher than the increased survival rate of premature babies, one cannot regard any one of these factors as the sole etiological agent. Prematurity, which is the primary prerequisite for susceptibility to retrolental fibroplasia, is not sufficient in itself, and no factor that existed before the incidence became high can by itself be regarded as an adequate cause. The answer must be sought in an interaction of intrinsic factors associated with prematurity and extrinsic factors, the introduction of which can be correlated with the actual rise in incidence of the disease.

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Titles marked with an asterisk (*) are abstracted.

American Journal of Psychiatry, New York

109:321-400 (Nov.) 1952. **Partial Index**

Japanese Psychiatry and Psychotherapy. A. Jacobson and A. N. Berenberg.—p. 321.
Utah's Experience with National Draft Act for Hospitalization of the Mentally Ill. C. H. Hardin Branch.—p. 336.
Using Leisure Time Agencies to Treat Problems Confronting Adolescents. A. R. Martin.—p. 344.
Contribution of Psychiatrist to Management of Crisis Situations. J. A. M. Meerloo.—p. 352.
Case of Anorexia Nervosa Treated Successfully by Leucotomy. P. E. Sifneos.—p. 356.
Controversial Indications for Electric Convulsive Therapy. A. Gallinek. —p. 361.
Psychological Studies on Patients Undergoing Nonconvulsive Electric-Stimulation Treatment. M. Beran, J. C. Perkins and R. W. Scollon. —p. 367.
Educational Program for Development of "Normal" Personality. H. E. Bullis.—p. 375.
Electroconvulsive Therapy Following Surgical Correction of Aortic Coarctation by Implantation of Aortic Isograft: Case History. J. Victor Monke.—p. 378.
Simple Hypnotizing Technique with Aid of Color-Contrast Action. B. Stokvis.—p. 380.

American Review of Tuberculosis, New York

66:651-794 (Dec.) 1952

Survival of Tuberculous Patients. J. Katz.—p. 651.
*Observations on Progression of Minimal Pulmonary Tuberculosis: Study Based on Findings in Army Rejectees. H. R. Edwards, D. Reisner and M. Bellows.—p. 666.
Use of Potassium Iodide in Combination with Streptomycin in Treatment of Experimental Tuberculosis in Guinea Pigs. M. A. Hamilton and E. F. Geever.—p. 680.
Effect of Iodized Oil Bronchography on Subsequent Course of Pulmonary Tuberculosis: Review with Study of 49 Cases. V. Marchese, K. P. Klassen and G. M. Curtis.—p. 699.
Method for Producing Tuberculous Meningitis in Guinea Pigs by Lumbar Intrathecal Inoculation. R. P. Stevens, A. G. Karlson and W. H. Feldman.—p. 722.
Tuberculous Chest Wall Sinuses. G. L. Gale and F. G. Kergin.—p. 732.
Partial Nephrectomy for Tuberculosis. J. K. Lattimer.—p. 744.
Gastrointestinal Changes in Pneumoperitoneum. I. D. Bobrowitz, F. Elias and J. Ochs.—p. 750.
Studies on Growth of Mycobacteria: I. The Occurrence of Arithmetic Linear Growth. M. W. Fisher and W. F. Kirchheimer.—p. 758.

Progression of Minimal Pulmonary Tuberculosis. — Minimal lesions of chronic pulmonary tuberculosis were studied in 4,079 army selectees who had been rejected for military service because of abnormal findings in their preinduction chest roentgenograms. The principal objective of the study was an attempt to determine the extent to which the roentgenogram alone, without the aid of clinical and laboratory data, may be used as a guide in estimating the future behavior, and therefore the clinical significance, of minimal lesions detected in mass or group surveys. A classification of minimal tuberculous lesions based on their presumed pathological character was used, and the lesions were grouped into the following three main categories: (1) exudative and exudative-productive, (2) productive and fibroproductive, and (3) fibrocalcific and calcified. The behavior of the lesions, i. e., progression, regression, or stability, was determined by comparing the initial roentgenogram with the latest film made available for the purpose of the study. Eighty-seven per cent of the paired films were read independently by both of the two "readers" to whom no information was given concerning the diagnosis made on the original film. Consistent differences in the behavior of minimal lesions, which appeared to be

related to their character, were observed. Progression rates were highest in the group classed as exudative or exudative-productive and lowest in the fibrocalcific and calcified group. In addition to character of the lesion, the age of the patient appeared to be significant. Higher progression rates were observed among persons less than 25 years old than in those aged 25 or over. Because of the relatively short follow-up period of only two years in the majority of the cases and the fact that the analysis was limited solely to an evaluation of roentgenographic findings, it is not believed that this study meets the essential requirements of a more complete and long-term study of the clinical significance and prognosis of minimal tuberculosis.

American Surgeon, Atlanta, Ga.

18:1139-1228 (Dec.) 1952

Management of Irregular Menses. J. R. Jones.—p. 1139.
Perforation of Gastric Ulcer in Premature Newborn with Operation and Survival. J. W. Beattie and K. E. Bohan.—p. 1146.
Intra-Arterial Transfusion: Indications and Technic. J. R. Veal, A. S. Russell and D. Stubbs.—p. 1150.
Mesonephroma of Ovary. J. W. Graves and B. W. Stofer.—p. 1160.
Reticulum Cell Sarcoma of Jejunum. W. J. Clifford.—p. 1164.
Pancreatic Fistula Following Partial Gastrectomy: Report of Case. P. F. Brown Jr., F. S. Springall and H. D. Smith.—p. 1168.
Superiority of Alloy Steel Sutures in Closure of Abdominal Wounds. W. W. Hoback.—p. 1172.
Calcific Disease of Gallbladder. R. H. Stephenson and D. H. Poer. —p. 1176.
Surgical Implications of Myoepithelial Hamartoma (of Clark) With Report of an Illustrative Case. J. T. Payne.—p. 1184.
Carcinoma of Female Mammary Gland. H. W. Shaw.—p. 1191.
*Role of Excision Biopsy in Lesions of Breast. H. G. Storrs.—p. 1199.

Excision Biopsy in Breast Lesions.—This report is based on the study of materials from 203 breasts subjected to some form of surgical intervention between 1933 and 1951. Of 79 lesions diagnosed as carcinoma preoperatively, only 55 or 69.6% proved to be malignant pathologically. Nineteen were some form of cystic disease; 1 was a fibroadenoma; 1 an adenofibroma; 2 were abscesses; and 1 an intraductal papilloma. Of 46 lesions diagnosed preoperatively as cystic disease, 6 proved to be carcinoma; 29 were diagnosed correctly; 4 were fibroadenoma; 1 was an adenofibroma; and 1 was due to plasma cell mastitis. In one case no tumor was found in the pathological specimen, while in another no pathological examination was believed to be necessary. In three the clinician did not believe that surgery was indicated. The discrepancy between preoperative and pathological diagnoses was even greater when the advanced and obvious cases of carcinoma were eliminated. To diagnose the early lesions and thereby cure more patients with carcinoma, all tumors of the breast should be excised and examined microscopically. The advantages of an excision biopsy with electrosurgery are briefly mentioned. As long as radical mastectomy remains the treatment of choice in breast carcinoma, excision biopsy should be employed routinely in patients with solitary nodules, discharging nipples, and other unilateral breast lesions that might be malignant.

Connecticut State Medical Journal, Hartford

16:887-976 (Dec.) 1952

Critique of Current Theories on Pathogenesis of Arteriosclerosis. F. T. Hatch.—p. 887.
Accuracy of Certain Chemical Determinations in Connecticut Laboratories: The Third Survey. J. G. Snavely, W. R. C. Golden and A. B. Cooper.—p. 894.
Prophylaxis of Rheumatic Fever. D. F. Levy.—p. 899.
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Harnessing the Vanishing Dollar. F. T. Fenn Jr.—p. 908.
Statement of Present Situation as Regards the Doctors' Draft. S. C. Harvey.—p. 914.

Gastroenterology, Baltimore

22:295-518 (Nov.) 1952

Comparative Study of Vagotomy and Gastric Resection: A Report Based on a National Survey Conducted by the American Gastroenterological Association Through its Committee for the Study of Peptic Ulcer and the Subcommittee on the Surgical Aspects of This Problem.—p. 303.

Hawaii Medical Journal, Honolulu

12:85-164 (Nov.-Dec.) 1952

Mismanagement of Chronic Abdominopelvic Pain. R. T. West.—p. 105.
Diagnostic Problems in Infectious Mononucleosis. J. L. Van Avery and D. O. Lynn.—p. 109.
Pulmonary Embolism and Infarction: Statistical Study. H. C. Gotshalk. —p. 113.
Treatment of Alcoholism, with Special Reference to Antabuse Therapy. J. R. Jacobson.—p. 116.

Journal of Experimental Medicine, New York

96:401-516 (Nov.) 1952. Partial Index

Protection Against Fatal Renal Injury Due to Choline Deficiency by Renal Decapsulation. J. H. Baxter.—p. 401.
Chemical and Antiviral Properties of Somatic Antigen of Phase II Shigella Sonnei. M. A. Jesaitis and W. F. Goebel.—p. 409.
Somatic Antigen of Phage-Resistant Variant of Phase II Shigella Sonnei. W. F. Goebel and M. A. Jesaitis.—p. 425.
Use of Phosphorus 32 in Studies on Plasmodium Gallinaceum: I. Development of Method for Quantitative Determination of Parasite Growth and Development in Vitro. D. H. Clarke.—p. 439.
Studies on Extracellular Cultivation of Intracellular Parasite (Avian Malaria): II. Effects of Malate and Coenzyme A Concentrates. W. Trager.—p. 465.
*Levels of Homotypic Neutralizing Antibody in Human Poliomyelitis Three Years After Infection. J. Winsser and A. B. Sabin.—p. 477.
Adaptation of Group B Coxsackie Virus to Adult Mouse Pancreas. G. Dalldorf and R. Gifford.—p. 491.
Rate of Cholesterol Synthesis in Hypo- and Hyperthyroid Rats. S. O. Byers, R. H. Rosenman, M. Friedman and M. W. Biggs.—p. 513.

96:517-679 (Dec.) 1952

Observations on Encephalomyelitis of Mice (DA Strain). J. B. Daniels, A. M. Pappenheimer and S. Richardson.—p. 517.
Effect of Sodium Monofluoroacetate on Multiplication of Influenza Viruses, Mumps Virus, and Pneumonia Virus of Mice (PVM). W. J. Mogabgab and F. L. Horsfall Jr.—p. 531.
Inhibition by Cortisone of Cytotoxic Activity of PPD on Tuberculin-Hypersensitive Cells in Tissue Culture. R. H. Leahy and H. R. Morgan. —p. 549.
Lysis of Group A Hemolytic Streptococci by Extracellular Enzymes of Streptomyces Albus. M. McCarty.—p. 555.
Mutants of Bacteriophage of Bacillus Megatherium. J. S. Murphy.—p. 581.
Strain-Specific Elements in Influenza Antigens. G. K. Hirst.—p. 589.
Studies on Generalized Shwartzman Reaction. L. Thomas and R. A. Good.—p. 605.
Studies on Mechanism of Experimental Proteinuria. A. L. Sellers, S. Smith, J. Marmorston and H. C. Goodman.—p. 643.
Fate of Mumps Virus in Embryonated Egg as Determined by Specific Staining with Fluorescein-Labelled Immune Serum. B. K. Watson. —p. 653.

Antibody Levels Three Years After Attack of Poliomyelitis.—It has been demonstrated that patients with poliomyelitis, as a rule, have neutralizing antibody for the infecting strain of virus early after onset of first symptoms, before the appearance of paralysis, and that this antibody increases in titer during convalescence, reaching peak levels several months later. The purpose of the present investigation was to determine how long these antibodies persist. Seven patients from whose alimentary tract poliomyelitis virus was recovered during the acute phase of illness and whose serums had been tested for neutralizing antibody against the recovered strain up to three months after onset were available for study three years later. Since the strains of virus as well as the three-month convalescent serums had been preserved, it was possible to perform simultaneous quantitative tests on the serums obtained three months and three years after onset. All the strains of poliomyelitis virus recovered from these patients were classified immunologically and found to be type 1 (Brunhilde strain), the type most frequently encountered in epidemics of the disease. All six patients who had a paralytic attack of the disease had very high levels of neutralizing antibody three years later. One of the patients, with a diagnosis of nonparalytic poliomyelitis, had a negligible or questionable antibody response during convalescence and no demonstrable antibody at three years; there is justifiable doubt as to whether the type 1 poliomyelitis virus recovered from this patient had actually caused infection. Tests for type 2 (Lansing) neutralizing antibody indicated that the five patients who had no evidence of previous infection with type 2 poliomyelitis virus had not become infected with it during the three year period. This suggested that these patients did not live in an environment in which infection with poliomyelitis virus is frequent. It is concluded, therefore, that in human beings, paralytic infections due to type 1 poliomyelitis virus produce large amounts of homotypic neutralizing antibody, which persists at high levels for a period of at least three years.

Journal of Immunology, Baltimore

69:471-580 (Nov.) 1952

Immunochemical Studies with β-Galactosidase and Structurally Related Proteins of Escherichia Coli. M. Cohn and A. M. Torriani.—p. 471.
California Encephalitis Virus, Newly Described Agent: II. Isolations and Attempts to Identify and Characterize the Agent. W. M. Hammon, W. C. Reeves and G. Sather.—p. 493.
Id.: III. Mosquito Infection and Transmission. W. C. Reeves and W. M. Hammon.—p. 511.
Studies on Immunization of White Mice Against Infections with Bacterium Tularense. J. F. Bell, C. L. Larson, W. C. Wicht and S. S. Ritter.—p. 515.
Immunochemical Studies on Tobacco Mosaic Virus: VII. Quantitative Precipitin Reaction with Eqine Antiserum. S. Malkiel.—p. 525.
Id.: VIII. Specificity of Chemically-Altered Virus. S. Malkiel.—p. 533.
Stability of Sensitizing and "Blocking" Antibodies in Allergic Serum Following Ultraviolet Irradiations. M. H. Loveless.—p. 539.
Purification Studies on Lansing Poliomyelitis Virus: pH Stability, CNS Extraction and Butanol Purification Experiments. H. L. Bachrach and C. E. Schwerdt.—p. 551.
Procedure which Eliminates Nonspecific Inhibitor from Human Serum but Does Not Affect Specific Antibodies Against Influenza Viruses. D. A. J. Tyrrell and F. L. Horsfall and F. L. Horsfall Jr.—p. 563.
Four New Provisional Serotypes of Shigella. W. H. Ewing and M. C. Hucks.—p. 575.

Journal of International College of Surgeons, Chicago

18:631-824 (Nov.) 1952

Feasibility of Prolonged Survival After Total Pelvic Exenteration for Advanced Cancer. A. Brunschwig.—p. 631.
The Problem of Duodenal Ulcer. F. G. Connell.—p. 642.
Malignant Disease of Stomach: Modified Technic for Total Gastrectomy. C. J. Hunt.—p. 651.
Shock. D. L. C. Bingham.—p. 661.
Results of Sympathectomy for Peripheral Vascular Disease, with 15-Year Evaluation of Cases. J. W. Hendrick and E. G. Guy.—p. 668.
Intracardiac Surgery with Hypothermia. B. A. Cookson, W. Neptune and C. P. Bailey.—p. 685.
*The Plastic Esophagus. E. F. Berman.—p. 695.
Measures for Reducing Morbidity and Mortality of Abdominal Surgery. W. W. Babcock.—p. 700.
Treatment of Stones in Common Bile Duct. N. F. Hicken and A. J. McAllister.—p. 705.
Portal Hypertension. P. Thorek.—p. 714.
Present Status of Esophageal Surgery. M. G. Buckles.—p. 718.
Pectus Excavatum. P. E. Rees-Davies.—p. 731.
Postoperative Intestinal Obstruction. E. F. Balangero.—p. 737.
Interrelation Between Hepatic Lesions and Lesions of Biliary Tract. H. Popper.—p. 743.
Why Infrequency of Malignant Duodenal Disease? A. B. Carney.—p. 753.
New Surgical Approach for Repair of Recurrent Direct Inguinal Hernia: Preliminary Report. W. M. McMillan and R. T. McElvenny.—p. 759.
Obligations in Treatment of Cancer of Skin. N. Owens.—p. 764.

The Plastic Esophagus.—Berman enumerates the difficulties encountered in the treatment of carcinoma of the esophagus that induced him to study the possibility of replacing segments of the thoracic portion of the esophagus with a specially prepared polyethylene plastic tube. The experimental work was extremely encouraging in that the operative procedure was short and simple. During the last two years the method has been used in 30 patients, in 28 of them for malignant disease. The mortality rate was considerably less than with conventional methods, the morbidity was negligible, and the patients were much more comfortable. In the last 15 cases in which this technique was employed, the operating time was less than an hour and a half as contrasted to four or five hours by the older techniques, the anastomosis requiring approximately 10 minutes. The mortality rate has been under 10%, in contrast to 15 to 40% with other methods. Leakage from the mediastinum was observed in one patient, but ceased in a short time. There were almost no pulmonary complications, and there has been no regurgitation or other evidence of esophageal irritation in patients followed for over a year since the operation. A fibrous sheath lined with epithelium forms around the tube, and the tube may be removed by esophagoscopic methods a few months after the operation, with little possibility of stricture. As much as 7 in. (17.5 cm.) of esophagus has been resected and replaced by the tube. The approach is solely through the right side of the chest. Convalescence is smooth, and eating is normal within 10 days after the operation. The technique of the operation and an illustrative case are described. This patient's condition deteriorated, and there were signs of metastasis six months after the operation. Longevity does not seem noticeably increased by this procedure.

Journal Lab. and Clinical Medicine, St. Louis

40:657-824 (Nov.) 1952. **Partial Index**

Function of Adrenal Cortex in Ascorbic Acid Deficiency and Scurvy in Monkey. C. T. Stewart, R. J. Salmon and C. D. May.—p. 657.
Measurement of Intraesophageal Pressure and Its Relationship to Intrathoracic Pressure. D. L. Fry, W. W. Stead, R. V. Ebert and others. —p. 664.
Elastic Properties of Lung in Normal Men and in Patients with Chronic Pulmonary Emphysema. W. W. Stead, D. L. Fry and R. V. Ebert. —p. 674.
Impairment of Antimicrobial Defenses Following Total Body Irradiation of Mice. H. S. Kaplan, R. S. Speck and E. Jawetz.—p. 682.
Serum Acetylcholinesterase: Its Close Correlation with Serum Albumin, and Its Limited Usefulness as Test of Liver Function. K. Fremont-Smith, W. Volwiler and P. A. Wood.—p. 692.
Observations on Plasma Glutamic Acid. J. M. White, J. R. Beaton and E. W. McHenry.—p. 703.
The Potassium, Sodium, and Calcium Content of Gastric Juice. I. Normal Values. R. E. Bernstein.—p. 707.
Liver Function in Untreated Addisonian Pernicious Anemia. R. F. Schilling and J. W. Harris.—p. 718.
A Stereovectorcardiograph. A. C. Guyton and J. W. Crowell.—p. 726.
Effects of P-(Di-N-Propylsulfamyl) Benzoic Acid (Benemid) on Free and Total Sulfonamide Plasma Levels. A. P. Crosley Jr., G. M. Bayne, S. C. Carfagno and W. P. Boger.—p. 730.
Newcastle Disease Virus in Man: Results of Studies in Five Cases. R. W. Quinn, R. P. Hanson, J. W. Brown and C. A. Brandly.—p. 736.
Observations on Laennec's Cirrhosis: Effects of Cortisone Acetate During Low-Sodium Regimen. R. A. Chapman, R. M. Kark, R. W. Keeton and others.—p. 744.
Method for Simultaneous Quantitative Determination of Cholic Acid and Desoxycholic Acid. L. C. Kier.—p. 755.
Method for Photoelectric Study of Coagulation of Whole Blood. F. R. Elliott.—p. 766.

Journal of Neurophysiology, Springfield, Ill.

15:435-518 (Nov.) 1952. **Partial Index**

Effect of Auditory Cortex Ablation on Auditory-Visual Association in Monkey. E. V. Evarts.—p. 435.
Retinal, Cortical and Motor Responses to Photic Stimulation in Man: Retino-Cortical Time and Opto-Motor Integration Time. M. Monnier. —p. 469.
Vascular Concomitants of Spreading Cortical Depression. A. van Harreveld and J. S. Stamm.—p. 487.
Modification of Cochlear Microphonics and Action Potentials by KCl Solution and by Direct Currents. I. Tasaki and C. Fernández.—p. 497.

Journal of Neurosurgery, Springfield, Ill.

9:555-658 (Nov.) 1952

*Intracranial Tuberculomas; Experience with 10 Consecutive Cases. A. González-Revilla.—p. 555.
Hypertrophic Spinal Pachymeningitis with Special Reference to Appropriate Surgical Treatment. P. C. Bucy and L. W. Freeman.—p. 564.
Orbitofrontal Lobotomy with Reference to Effects on 55 Psychotic Patients. J. R. Green, R. E. H. Duisberg and W. B. McGrath.—p. 579.
Electroencephalogram in Subdural Hematoma. L. L. Levy, L. H. Segerberg, R. P. Schmidt and others.—p. 588.
Autonomic Pathways in Spinal Cord. D. A. Johnson, G. M. Roth and W. McK. Craig.—p. 599.
Use of Refrigerated Autogenous Bone Flaps for Cranioplasty. G. L. Odom, B. Woodhall and F. R. Wrenn Jr.—p. 606.
On the Anatomy of Anterolateral Cordotomy. E. A. Kahn and R. W. Rand.—p. 611.
Schistosomiasis of Brain. F. A. Carmichael Jr. and H. S. Cowley.—p. 620.
Is There Room for a Neurologist in a Neurosurgical World? J. C. Yaskin. —p. 635.

Intracranial Tuberculomas.—The histories of nine patients with intracerebral tuberculomas and one with an epidural tuberculoma are reviewed. Females were affected more frequently than males in the proportion of 3:2. The youngest patient was 3 years old and the oldest 54. Fifty per cent of the tuberculomas occurred in children less than 14 years old, and the other 50% in adults over 20. Symptoms had been present for from 2 to 3 months in seven patients, and in the remaining three for 7, 24, and 36 months respectively. Elevation of temperature had been the initial symptom in three of the nine patients with intracerebral tuberculoma. Severe, intermittent, and generalized headache was a prominent and constant symptom in every patient; it was associated with vomiting in five. Convulsive seizures were present in four patients, in all of whom the tuberculomas were observed at operation to be in a frontal lobe. Signs of increased intracranial pressure were present in all cases. In the patient with epidural tuberculoma the only symptom was a continuous dull pain localized over the right parietal region, with occasional

episodes of acute exacerbation. A preoperative diagnosis of tuberculoma was made in two patients, one of whom gave a history of tuberculous contact in the family, while in the other a chest roentgenogram showed a small parenchymatous lesion in the left pulmonary base. The author emphasizes that if the diagnosis of tuberculoma is made preoperatively, a conclusive and certain proof can not be obtained even in the presence of extracranial tuberculosis until the lesion has been studied microscopically, because any true cerebral neoplasm may coexist with tuberculosis elsewhere. Complete surgical extirpation with adequate streptomycin therapy was carried out in nine patients. Two of these nine patients died of tuberculous meningitis and seven have been living and well for from 12 to 36 months. The three patients who died were adults; children seem to have a better chance of survival than adults. Whenever feasible, complete surgical removal of intracranial tuberculomas combined with adequate streptomycin therapy should be the method of choice in their management.

Journal of the Student A. M. A., Chicago

1:1-84 (Dec.) 1952. **Partial Index**

Sub-Tentorial Tumors in Children. R. L. Phillips.—p. 17.
Delayed Umbilical Ligation. R. B. Jackson.—p. 20.

Journal of Thoracic Surgery, St. Louis

24:435-544 (Nov.) 1952

Care of Thoracic and Thoracoabdominal Wounds in Combat Zone in Korea. E. E. Rockey.—p. 435
Management of War Wounds of Chest. A. R. Valle.—p. 457.
Repair of Tracheal Defects with Fascia and Tantalum Mesh: An Experimental Study. E. A. Swift, J. H. Grindlay and O. T. Clagett.—p. 482.
Congenital Esophagobronchial Fistula in Adult. J. K. Berman, P. S. Test and B. A. McArt.—p. 493.
Calcific Emboli Complicating Mitral Valve Commissurotomy: Report of Case. H. E. Bolton, R. Maniglia and F. C. Massey.—p. 502.
*Resection in Pulmonary Tuberculosis: Analysis of 107 Operations on 101 Patients, with Early Results. W. O. Kelley and D V. Pecora.—p. 510.
Localized Pulmonary Hypertrophic Emphysema. M. H. Williams.—p. 522.
Acute Tuberculous Fibrinous Bronchitis. M. H. Williams.—p. 530
Benign Thymoma in Hilus of Lung: Case Report. J. D. Thorburn, H. B. Stephens and O. F. Grimes.—p. 540.

Resection in Pulmonary Tuberculosis.—This paper reviews 107 consecutive resections of varying amounts of lung tissue performed in 101 patients at the Connecticut State Tuberculosis Sanatorium between October, 1948, and July, 1951. Six patients had bilateral resections prior to July, 1951. An additional three patients had contralateral resection without complication subsequent to July, 1951, but the latter operations are not included in this analysis. Postresection thoracoplasty was performed in 53 instances without complication. A high percentage of patients having early resections were desperate risk patients, and, for this reason, a comparatively large number of them (36) had pneumonectomy. Failure of thoracoplasty was also a major indication; 28 patients had some form of resection after having had unsuccessful thoracoplasty. Postresection thoracoplasty was performed after each pneumonectomy and after subtotal resection, if the remaining lung would not fill the hemithorax when the intrapleural pressures had been reduced to minus 10 to 20 cm. of water. All dead space, especially if bronchopleural fistula were present, was eliminated as soon as possible (usually in three weeks) by thoracoplasty. It is believed that the low incidence of empyema in this series is directly attributable to this principle. Every patient in this series received either streptomycin or dihydrostreptomycin for at least a few days prior to operation and a month following the last operative procedure. Eighty-two patients (83.7%) have negative sputum and roentgenograms. Morbidity, both early and late, has been relatively slight. There was an operative mortality of 2.7% and a total mortality of 3%. These results as well as those reported in the literature indicate that treatment of tuberculosis by resection is not only a safe but a highly effective procedure. The early results compare favorably with those of thoracoplasty. Postoperative decrease in ventilatory function is less than that following thoracoplasty. Although a number of years must elapse before this series can be completely evaluated, there has not been a high incidence of late complications in the earlier cases.

Laryngoscope, St. Louis

62:1137-1248 (Nov.) 1952. **Partial Index**

Review of Available Literature on Pharynx and Pharyngeal Surgery for 1951. F. E. LeJeune and M. Lewis.—p. 1137.
Late Congenital Syphilis of Ear. H. B. Perlman and J. H. Leek.—p. 1175.
Masking and Fatigue Effect of White Noise in Connection with Speech Tests. C. Sambataro and G. Pestalozza.—p. 1197.
*Air Embolism During Lavage of Maxillary Sinus. A Report of Two Cases. L. Q. Pang.—p. 1205.
Bronchial Adenoma. C. C. Wolcott.—p. 1225.

Air Embolism During Lavage of Maxillary Sinus.—Although lavage of the maxillary sinus is a simple diagnostic and therapeutic procedure, it may cause complications, the most terrifying of which is air embolism. Pang found in the literature 58 cases of embolism produced by lavage of the maxillary sinus, of which 23 resulted in death. He himself observed two cases, both of which were fatal. It was formerly the practice to insufflate air into the antrum before irrigation and again after irrigation to dry out the sinus. The practice of insufflating air before the irrigation to determine whether the point of the needle is in the sinus and whether the ostium is patent is unnecessary and has been discarded by nearly all otolaryngologists. There still is disagreement, however, regarding insufflation of air into the antrum after the irrigating fluid. Although most otolaryngologists now advise against it, some still believe that it helps to promote early restoration of function. His own unfortunate experience in two cases convinced Pang that the insufflation of air following lavage of the maxillary sinus is not only unnecessary but exceedingly dangerous.

Maryland State Medical Journal, Baltimore

1:537-578 (Nov.) 1952

SYMPOSIUM ON USE AND MISUSE OF BLOOD TRANSFUSION IN SURGERY

Pooled Plasma and Homologous Serum Jaundice. J. G. Allen.—p. 540.
Untoward Reactions from Blood Transfusions. C. L. Conley.—p. 547.
Large Hemorrhages from Bowel of Obscure Origin. H. B. Stone.—p. 555.

Medicine, Baltimore

31:331-448 (Dec.) 1952

Observations on Treatment of Rheumatic Fever with Salicylate, ACTH and Cortisone: I. Appraisal of Signs of Systemic and Local Inflammatory Reaction During Treatment, the Rebound Period and Chronic Activity. E. E. Fischel, C. W. Frank and C. Ragan.—p. 331.
Filtration, Resorption, and Excretion of Protein by Kidney. L. J. Rather.—p. 357.
Systematized Amyloidosis: Review of Skin and Mucous Membrane Lesions and Report of Two Cases. R. W. Goltz.—p. 381.
On the Evolution of Blood Clotting Theory. J. H. Milstone.—p. 411.

Mental Hygiene, Albany, N. Y.

36:353-528 (July) 1952. **Partial Index**

The Security of Discipline. F. S. DuBois.—p. 353.
Evaluation of Recent Adolescent Drug Addiction. D. P. Ausubel.—p. 373.
Mental Health and the Maladjusted Child. K. Soddy.—p. 383.
Mental Hygiene of Adolescence in the Anglo-American Culture. M. E. Kirkpatrick.—p. 394.
Community Efforts in Mental Hygiene. G. S. Stevenson.—p. 404.
Home Care of the Aged Mentally Ill. J. M. Parsons.—p. 413.
Problems of Retirement. J. G. N. Cushing.—p. 449.

Military Surgeon, Washington, D. C.

3:395-446 (Dec.) 1952

USAF Physician Engineer Team: An Evaluation of the Future. J. E. Boysen and A. F. Meyer.—p. 395.
Diagnosis of Brain Tumor Masked by Mental Symptoms. W. Simon.—p. 411.
Treatment of Intrathoracic Wounds. A. R. Valle and D. R. Watkins.—p. 422.
Brain Injury from Local Impact Without Skull Fracture. G. B. Coe, J. K. MacNamee and C. M. Herget.—p. 428.
Conversion Hysteria of National Guardsman in Simulated Battle Situation. S. M. Korson.—p. 432.

New England Journal of Medicine, Boston

247:829-868 (Nov. 27) 1952

Clinical Assay of New Synthetic Estrogen: Vallestril. M. I. Sturnick and S. L. Gargill.—p. 829.
Nonoperative Reduction of Acute Volvulus of Sigmoid. E. Hamlin Jr. —p. 835.
*Comparison of Effect of Vitamin B_{12} with That of Liver Extract in Treatment of Pernicious Anemia During Relapse and for Maintenance. W. P. Murphy and I. Howard.—p. 838.
Diencephalic Autonomic Attacks: Report of Case with Predominantly Sympathetic Manifestations. T. Geoghegan and E. J. Mueller.—p. 841.
Thoracic Surgery. J. G. Scannell.—p. 843.
Seven-Year Survival After Radiation Therapy in Patient with Inoperable Cancer of the Lung. H. W. Burnett, I. Steinberg and C. T. Dotter. —p. 850.
Congenital Defects of Heart in High Altitudes. L. Dexter.—p. 851.

Comparison of Vitamin B_{12} and Liver Extract in Pernicious Anemia.—Eight patients with pernicious anemia were treated during relapse with intramuscular injections of crystalline vitamin B_{12}. Twenty patients with comparable initial erythrocyte levels were given intramuscular injections of refined liver extract. Comparison of the erythrocyte increases of the two groups shows an almost uniformly greater increase in the patients treated with liver extract than in those who received vitamin B_{12}. Erythrocyte counts of 4,500,000 cells per cubic millimeter or higher were reached in 16 of the 20 patients treated with liver extract but in only 3 of the 8 patients treated with vitamin B_{12}. During the 28 day period counts of 4,800,000 red cells per cubic millimeter or higher were reached in six patients given liver extract but in no patient given vitamin B_{12}. For maintenance therapy vitamin B_{12} was used not only in patients who had received it during relapse but also in nine patients who had previously received intramuscular injections of liver extract. One of these was treated again with liver extract after two years because of severe central nervous system involvement with locomotor difficulty, which appeared not to be well controlled by the vitamin B_{12}. After six months of liver therapy, during which the neural disturbance seemed to have improved, follow-up observation was temporarily interrupted. The authors feel that the clinical effect of vitamin B_{12} both during relapse and for maintenance therapy has been in general similar to that observed with the use of liver extract. It was not possible to predict conclusively the relative potency of the U. S. P. antipernicious anemia unit of liver extract and 1 μg of vitamin B_{12}, but the erythrocyte increase seemed to suggest that the effect of 1 U. S. P. unit of liver extract is greater than that of 1 μg of vitamin B_{12}. The authors believe that 1 U. S. P. unit is perhaps equivalent to 1.3 μg of vitamin B_{12} as opposed to the 1:1 ratio previously suggested. Severe reactions following the use of refined liver extracts were so rare in the experience of these authors that absence of severe reactions after administration of vitamin B_{12} injections is not a great advantage. Vague symptoms such as heaviness of the legs, flushing, and throbbing in the head have been noted in an occasional patient treated with either liver extract or vitamin B_{12}. Crystalline vitamin B_{12} has been tolerated in one patient who was disturbed by both liver extract and an amorphous concentrate of vitamin B_{12}.

North Carolina Medical Journal, Winston-Salem

13:593-644 (Nov.) 1952

Vertigo. B. W. Armstrong.—p. 593.
Chronic Illness and the Aging Population. W. L. Fleming.—p. 599.
Effect of Adrenal Hormone Therapy on Course of Infectious Diseases. S. P. Martin, T. B. Schwartz and F. L. Engel.—p. 605.
Clinical Use of Resins. W. Batten.—p. 611.
Evaluation of Methods of Pain Relief During Labor and Delivery, with Reference to Mother and Child. C. R. Stephen, W. K. Nowill and R. C. Martin.—p. 616.
*Trichlorethylene (Trilene) Analgesia for Obstetrics and Minor Surgery in General Practice. G. Smith.—p. 621.
Acute Subarachnoid Hemorrhage: Etiology and Mortality. G. L. Odom, B. M. Bloor, J. B. Golden and B. Woodhall.—p. 624.
Recurrent Hemangiopericytoma: Case Report. M. A. Spyker and H. B. Kernodle.—p. 627.

Trichloroethylene Analgesia.—Trichloroethylene ("trilene") was used as an analgesic agent in a suitable inhaler, consisting essentially of a small hand-sized chrome canister and a standard rubber face-piece, in 112 home deliveries in a rural area. The drug was administered intermittently for 30 seconds to 14 hours, depending on the stage of labor encountered. A dose of 15 cc. produced an effect lasting from 12 minutes to over 4 hours. Many of the women were so near to delivery that they were able to inhale the agent only for a matter of moments, yet in all cases analgesia was pronounced and in most cases amnesia for the delivery was complete. The obstetric patients were residents of a poor rural county and were delivered at home. In a practice of this type the ease and safety of self-administration of trichloroethylene and the duration of analgesia is a decided advantage. Recovery was usually so rapid, even after prolonged use, that the majority of the patients were able to give coherent and sensible directions immediately after delivery. None of the author's parturient mothers or patients were nauseated. Minor surgical procedures, chiefly suturing, incision and drainage, reduction of dislocations, and dressing of painful burns were carried out with trichloroethylene analgesia in patients ranging in age from 1 to 60 years. Results demonstrated that trichloroethylene is safe to use in minor pediatric surgery. It has a potent analgesic amnesic effect, given alone or in combination with meperidine (demerol®) hydrochloride and/or scopolamine. Its odor is not unpleasant. Induction is rapid and awakening rapid and lucid. Side-effects such as restlessness, nausea, vomiting, and headache are minimal. It can be employed in obstetrics for long periods of time without endangering mother or child or affecting the uterus. The incidence of hemorrhage and other obstetric complications is not increased. Labor is not prolonged. Administration is simple and easy. It boosts the morale of the parturient woman. It does not depress fetal respiration. Trichloroethylene is also being used almost exclusively in the delivery rooms of several first-class hospitals in North Carolina as well as in home deliveries.

Oklahoma State Medical Assn. J., Oklahoma City

45:407-446 (Dec.) 1952

Recent Developments in Field of Urology. M. A. Johnson.—p. 410.
Emergency Care of Patients with Fracture. M. B. Hays.—p. 412.
Corrections of Nasal Deformities. J. W. Kelley.—p. 415.
Primary Appendicostomy as a Life Saving Procedure in Appendicitis of Aged. M. A. Neumann.—p. 419.

Pediatrics, Springfield, Ill.

10:513-636 (Nov.) 1952

Nutritional Recovery Syndrome: Preliminary Report. F. Gómez, R. R. Galván and J. C. Muñoz.—p. 513.
Electrophoretic Analysis of Serum Proteins in Premature Infants. P. M. Norton, H. Kunz and E. L. Pratt.—p. 527.
Level of Hyaluronidase Inhibitor in the Serum of Premature Infants with Retrolental Fibroplasia. J. B Mackenzie.—p. 533.
Birth and Mortality Rates Among Slave Infants on Southern Plantations. W. D. Postell.—p. 538.
*Adrenocorticotrophic Hormone (ACTH) Therapy of Nephrotic Syndrome in Children. J. Metcoff, C. P. Rance, W. M. Kelsey and others.—p. 543.
Mobility of Upper Cervical Spine in Health and Disease. E. H. Townsend Jr. and M. L. Rowe.—p. 567.
Psychiatric Aspects of Changes in Infant and Child Care. H. Bruch. —p. 575.
Psychosomatic Study of Infantile Eczema: I. Mother-Child Relationship. M. J. Rosenthal.—p. 581.
Pressure-Time Relations in Safe Correction of Atelectasis in Animal Lungs. R. Day, A. M. Goodfellow, V. Apgar and G. J. Beck.—p. 593.
BAL Therapy in Chronic Lead Poisoning. R. C. Giannattasio, M. J. Pirozzi, A. V. Bedo and K. G. Jennings.—p. 603.

Corticotropin in Treatment of the Nephrotic Syndrome in Children.—Metcoff and associates describe some of the clinical and physiological responses to the administration of 56 courses of corticotropin in 45 children with the nephrotic syndrome. The intramuscular administration of corticotropin in daily doses of 150 to 200 mg. for at least 8 and usually 10 days resulted in complete diuresis in 38 (68%) of 47 such courses and in 34 of 45 patients treated. Approximately 50% of the patients undergoing diuresis have maintained clinical remissions of three months or longer. Twelve of 16 such patients have been in clinical remission for over 6 months; 6 of these, for over 12 months. Induced diuresis and remission were associated with

considerable improvement in renal function, particularly glomerular filtration rate and filtration fraction. Some diminution of proteinuria and increased serum protein levels were observed after diuresis, and serum cholesterol levels fell toward normal levels. Rather consistent but minimal changes in serum electrolyte patterns were noted. Corticotropin therapy of the nephrotic syndrome in children is hazardous; four patients died as a result of such complications as infection, severe hypertension, and hypotonicity of the extracellular fluid. Prompt recognition and treatment of these disorders, with immediate withdrawal of corticotropin therapy, require constant supervision. For this reason, this treatment is not considered safe for outpatients. The mechanisms responsible for inducement of diuresis and remission by corticotropin therapy are not yet clear. Adequate dosage, normal diet without salt restriction but without added or excessive salt, and possibly a limited period of reduced renal function appear to favor diuresis. Neither the age of the patient nor the duration of disease appear to influence the outcome in children. Although therapy may not effect a cure, it alters the course favorably in a significant number of patients, and therefore, at least at the present time, appears to be the treatment of choice for the active phase of the nephrotic syndrome in children.

Radiology, Syracuse, N. Y.

59:637-804 (Nov.) 1952

*Irradiation Effects of Roentgen Therapy on the Growing Spine. E. B. D. Neuhauser, M. H. Wittenborg, C. Z. Berman and J. Cohen.—p. 637.

Some Late Skeletal Changes in Chronic Infantile Cortical Hyperostosis. J. Caffey.—p. 651.

Anomalous Pulmonary Artery from Aorta Associated with Intrapulmonary Cysts (Intralobar Sequestration of Lung): Its Roentgenologic Recognition and Clinical Significance. S. M. Wyman and W. R. Eyler. —p. 658.

Bronchial Rearrangement and Bronchiectasis Following Pulmonary Resection. A. Ettinger, C. Bernstein and F. M. Woods.—p. 668.

Significance of Unilateral Enlargement of Hilus Shadow in Early Diagnosis of Carcinoma of the Lung, with Observations on Method of Mensuration. L. G. Rigler, B. J. O'Loughlin and R. C. Tucker.—p. 683.

Radiographic Identification of Lymph Node Metastases from Carcinoma of Esophagus. J. J. McCort.—p. 694.

Normal Cervical Spine in Infants and Children. D. K. Bailey.—p. 712.

Therapeutic Effects in Hyperthyroidism from Repeated Diagnostic Doses of I^{131}. S. C. Werner, H. B. Hamilton and M. R. Nemeth.—p. 720.

Automatic Tissue Dose Computer for Use in Supervoltage Rotational Therapy. W. S. Moos and E. W. Webster.—p. 729.

Course of Testicular Injury Following Accidental Exposure to Nuclear Radiations: Report of Case. W. R. Oakes and C. C. Lushbaugh. —p. 737.

Irradiation Effects on the Growing Spine.—In administering roentgen therapy to retroperitoneal or paravertebral neoplasms in children, the radiologist is faced with the questions of the possible effects on the growth of the spine that may result from the therapy and how the tumor can be irradiated in adequate dosage with minimal damage to the spine. To find answers to these questions Neuhauser and associates studied 45 patients who received roentgen therapy over the spine. Thirty-four children who had received irradiation over the spine were restudied at intervals ranging from 2 years and 2 months to 13 years and 3 months following treatment. Postmortem examination on 11 patients provided additional information. The authors gained the impression that growth disturbances produced by radiation in the human vertebrae are directly related to dosage and inversely related to age. Dosages under 1,000 tissue r usually fail to produce a gross permanent deformity of the vertebrae in a growing child, probably irrespective of the age at which treatment is given. Children over 2 years of age may tolerate between 1,000 and 2,000 r delivered to the spine with only minor growth disturbance, but dosages in excess of 2,000 tissue r, irrespective of the age of the child, will probably produce growth disturbances. In the series observed by the authors the majority of these disturbances were associated with gross abnormality of contour of the vertebrae. Scoliosis was only rarely produced if the spine received uniform radiation. The significant changes observed at 11 postmortem examinations were nonspecific growth retardation and irregular ossification of the epiphyseal cartilage. These changes may lead to an irregular advance of the line of ossification, but no gross alterations of osseous contour were observed, presumably because the interval between irradiation and death was too short in this group of patients. Benign exostoses cartilagineae of the type so commonly seen in multiple and familial form appear to be commoner in persons whose epiphyses have been irradiated than in the normal population. The authors believe that, when irradiation is definitely indicated in paravertebral tumors of the spine, x-ray therapy can be so directed as to produce minimal disturbances in the development of the spine.

Rhode Island Medical Journal, Providence

35:581-632 (Nov.) 1952

Present Day Concept of Rheumatoid Arthritis and Allied Diseases. J. M. Ramos.—p. 597.

Grouping and Typing of Streptococci with Specific Bacterial Viruses. J. M. McKenna.—p. 601.

Spontaneous Rupture of Abdominal Aorta. S. J. Goldowsky.—p. 604.

Response of Patients with Rheumatoid Arthritis to Administration of Nitrogen Mustard. A. M. Phillips, R. W. Phillips and W. T. Caraway. —p. 610.

Rocky Mountain Medical Journal, Denver

49:1003-1094 (Dec.) 1952

The Elderly Primipara: Follow-Up Study. D. G. Johnson and R. V. Colpitts.—p. 1025.

A Plea for the Stethoscope. S. A. Levine.—p. 1029.

Insertion and Maintenance of Function of Levine Tube. P. J. Burnham. —p. 1034.

Treatment of Severe Migraine with Cafergot. T. A. Clawson Jr.—p. 1038.

Meckel's Diverticulum. McD. Wood.—p. 1039.

Vitallium Cup Arthoplasty for Selected Hip Disabilities. F. Matchett. —p. 1045.

South Dakota J. Med. & Pharmacy, Sioux Falls

5:329-358 (Dec.) 1952

Subluxations and Dislocations of Hip in Cerebral Palsy. R. E. Van Demark.—p. 329.

Nitrate Poisoning: Methemoglobinemia as Cause of Cyanosis in Infants: Report of Case. D. R. Nelimark and J. T. Murphy.—p. 331.

Surgery of Gall Bladder. E. O. Latimer.—p. 333.

Arteriosclerosis. P. Williamson.—p. 338.

Selective Service and the South Dakota Doctor. G. E. Van Demark. —p. 340.

Southwestern Medicine, El Paso, Texas

33:421-460 (Dec.) 1952

Diabetic Acidosis. M. A. Carreras.—p. 438.

Opening the Door to Communism. J. H. Parrott.—p. 442.

Bi-Manual Method for Control of Post-Partum Hemorrhage. W. E. Lockhart.—p. 446.

Surgery, St. Louis

32:923-1084 (Dec.) 1952

Technique of Mitral Valvulotomy. D. A. Cooley and M. E. De Bakey. —p. 923.

Some Observations on Treatment of Carcinoma of Pancreas. T. G. Orr. —p. 933.

Method to Improve Roentgen Diagnosis of Biliary Diseases with Bile Acids. A. M. Berg and J. E. Hamilton.—p. 948.

Method of Repair of Vertically Divided Sternum. O. F. Noel.—p. 953.

*Long-Acting Bilateral Intercostal Nerve Block for Upper Abdominal Surgery. R. W. Bartlett and D. W. Eastwood.—p. 956.

*Analysis of 100 Consecutive Lumbar Myelograms Followed by Disc Operations for Relief of Low-Back Pain and Sciatica. L. T. Ford, R. H. Ramsey, E. P. Holt and J. A. Key.—p. 961.

Clinical Studies on Effect of Barium in Peritoneal Cavity Following Rupture of Colon. N. Zheutlin, E. C. Lasser and L. G. Rigler.—p. 967.

Sulfadimetine, A New Sulfonamide for the Treatment of Urinary Infections. A. M. Rutenburg, F. B. Schweinburg and B. Sears.—p. 980.

Long-Acting Bilateral Intercostal Nerve Block.—The method of blocking the 6th through the 11th intercostal nerves bilaterally in the midaxillary line so that their lateral branches would be included along with their anterior branches, was originated and introduced by Bartlett in 1940 for making safer upper abdominal surgery in seriously ill patients. Experiments have been carried on since 1941 with long-acting anesthetic solutions, but none have been satisfactory until the recent advent of "efocaine," a

combination of procaine and butyl aminobenzoate in an organic solvent composed of polyethylene, glycol 300, and propylene glycol with the addition of minimal amounts of water or body fluids. This solution provides anesthesia or hypesthesia of the incision for 7 to 14 days. It was used for carrying out the peripheral block in combination with light thiopental sodium and nitrous oxide or light cyclopropane anesthesia in 38 patients undergoing intraperitoneal upper abdominal operations as well as operations on the anterior abdominal wall, such as closure of transverse colostomy and repair of umbilical and incisional hernias. The long-acting bilateral intercostal nerve block produced surgical relaxation equaling that obtained with spinal anesthesia. Under this plan of anesthesia, the patient is awake at the conclusion of the surgical intervention. He is able to perform deep breathing and to cough voluntarily without undue discomfort; hernia or eventration seldom occurs; ambulation is almost immediate; little morphine is required, and less nursing care is required. Since the nursing staff was instructed that morphine should be given for pain but not for restlessness, only one of the last eight patients has received an injection of morphine postoperatively, and this consisted of a single injection of 10 mg. The method adds greatly to the safety and comfort of the patient.

Lumbar Myelograms Followed by Disk Operations.—Both lumbar myelography with 3 cc. of ethyl iodophenylundecylate (pantopaque®) and subsequent surgical intervention for intervertebral disk lesions were carried out in 65 men and 35 women. Eight patients were operated on for back pain only, no sciatica being present. Only one patient had pure sciatica without back pain. Of the 92 patients with sciatica, only 54 complained of numbness or tingling in the affected leg. Pain on coughing or sneezing was present in 77 patients. Pathological disks were found at operation in 96 patients and normal disks in 4. Three of these four patients noted no cough and sneeze effect. Of the 100 lumbar myelograms made, only 60 were completely accurate. Operative findings confirmed the positive results in 57 cases and the negative results in three cases. In 12 cases there were relatively unimportant discrepancies, but in 28 cases major discrepancies were observed. This confirmed the authors' previous impression that a myelogram that shows no abnormalities should not contraindicate disk surgery when symptoms and physical findings indicate operation. Nor is it necessary to subject the patient to myelography when the history, clinical course, and physical findings definitely indicate a disk lesion and the surgeon is able to determine the approximate location of the abnormal disk.

Virginia Medical Monthly, Richmond

79:593-656 (Nov.) 1952

Relationship of Navy Medicine to Ophthalmology and Otolaryngology. L. Pugh.—p. 596.
Comparative Study of Subtotal Gastrectomy With and Without Vagotomy. J. W. Tankard.—p. 604.
Delayed Postoperative Tonsil Hemorrhage: Conclusion of Recent Studies. H. G. Preston.—p. 618.
Amenorrhea—Oral Estrogen—Progesterone Treatment. W. Bickers.—p. 620.
Non-Specific Inflammatory Tumors of the Colon—Four Cases from the Sigmoid. A. L. Herring Jr.—p. 623.
*Hemophilia with Two Circulating Anticoagulants—Clinical and Experimental Study. H. G. Kupfer, R. Thagard, H. Irvin and others.—p. 629.

Hemophilia with Two Circulating Anticoagulants.—Kupfer and his associates feel that the basic defect in hemophilia—the lack of antihemophilic globulin—is not per se a sufficient explanation of bleeding episodes in a hemophiliac patient. There must be some periodic fluctuation of other agents responsible for the fact that an identical trauma will cause bleeding during one period and will have no detrimental effects at another time. These unknown agents are of utmost importance because prevention of their formation or neutralization of their effects may keep hemophiliacs from bleeding. These potential anticoagulants may sometimes be of an antibody nature. The authors describe an 11-year-old Negro boy with sporadic, nonfamilial hemophilia, in whose plasma two different types of circulating anticoagulants were found. One was of the heparin type, and was found during a bleeding episode. It was neutralized by a course of therapy with protamine sulfate. The other was an antibody against antihemophilic globulin and was demonstrated after neutralization of the first anticoagulant. The diagnosis of hemophilia should be certified by a test showing that antihemophilic globulin will bring the clotting time of the blood to normal. The described case is the ninth one in which the test first described by Hawks was positive. The authors describe a quantitative modification of the test designed to evaluate the potency of the antibody. As regards treatment they suggest that hemophiliacs should be followed over a long period with studies of the degree of their antihemophilic globulin deficiency and presence of antibodies against antihemophilic globulin. There is a possibility that periodic increases of antibodies against antihemophilic globulin or a decrease of the level of antihemophilic globulin may be correlated with bleeding episodes. This would change the therapy. Plasma would be used only in emergencies when cold and pressure would not stop the bleeding. Washed red blood cells would be used to substitute for red blood cells lost during bleeding.

79:657-718 (Dec.) 1952

Clinical Manifestations and Treatment of Chronic Hypoparathyroidism. R. H. Jones Jr.—p. 660.
Mesenteric Adenitis Complicated by Multiple Segmental Intussusception of Small Intestine. W. L. Peple Jr. and F. W. Gill.—p. 673.
Fatal Aplastic Anemia Following Chloramphenicol (Chloromycetin®). J. G. Willis, C. A. Nunnally, L. F. Moss and P. J. Nutter.—p. 676.
*Office Treatment with Subcoma Insulin and Training in Diversion: An Analysis of 105 Consecutive Cases. J. T. Ransone.—p. 678.

Subcoma Insulin Therapy and Training in Recreation.—A brief course of subcoma insulin therapy was given by Ransone in his office simultaneously with habit training in appropriate recreation and diversion to 105 patients. Of these, 52 had anxiety states (complicated by chronic alcoholism in 20); 28 had other more involved and more fixed neuroses (complicated by chronic alcoholism in 11); 4 had schizoid personality with chronic alcoholism; 14 schizophrenia; 4 active manic depressive psychosis, depressed type; 1 involutional melancholia; and 2 mental deficiency. The average treatment lasted 8.6 days. Regular insulin was used in an average daily dose of 109 units. The patients were kept out of bed and busily playing cards or other table games throughout the six or seven hours spent in the physician's office, except for about two hours of frank hypoglycemia. Results of treatment seemed surprisingly good considering that the patients were almost unselected as to diagnosis and unfavorable prognosis, the small number of treatments given, and the irregularities in treatments necessarily incident to treatment of nonhospitalized patients. The patients with anxiety states as a whole responded promptly to subcoma insulin and were exceedingly gratifying to treat. The poorest results were in the group designated "other more involved and more fixed neuroses," most of whom exhibited much evidence of conversion hysteria. Subcoma insulin therapy can be administered safely in the office if proper observation and precautions are used. Precautions must include thorough evaluation of the patient by examination, history, and all indicated laboratory work. Studies and evaluations must include any glycogen depletion and any existing impairment of the liver, kidneys, or the cardiovascular system. The physician must be alert for carotid sinus disease, especially in diabetics. Patients disciplined to ignore hunger require careful watching and coaching. Insulin, whether used in subcoma or in small tonic doses, is a specific for the numerous every day nervous and physical complaints caused by habitual sympathetico-adrenal stimulation (prolonged alarm reaction). The emotional source of such functional complaints should be recognized and treated promptly instead of being temporized with rest and sedation. When there is available no other prompt and effective treatment, insulin is indicated. During a period of improvement produced by insulin, the patient routinely should be coached and trained adequately to replace with interesting activities the time he has been spending in preoccupation with painful thoughts, and he should be treated with other brief practical psychotherapeutic measures. Results should then be permanent.

FOREIGN

Actas Dermo-Sifiliográficas, Madrid

44:1-94 (Oct.) 1952. **Partial Index**

*Psoriasis and Adaptation Syndrome: Clinical Results of Cortisone Treatment. S. Noguer Moré and E. Bassas Gráu.—p. 3.

Treatment of Acrodermatitis Chronica Atrophicans of Herxheimer with Penicillin and Vitamin E. Case. L. de Azúa, J. Marrón and R. Mar.—p. 30.

Exanthema Following Local Application of Sulfonamides. E. de Gregorio and T. Cisneros.—p. 37.

*Malingering Simulating Cutaneous Myiasis. L. de Azúa Dochas and C. Olivares Baqué.—p. 40.

Psoriasis and Adaptation Syndrome.—Forty-one patients with psoriasis, with or without rheumatoid arthritis, were studied before and after administration of cortisone for possible relations between psoriasis and changes of the hypophysial-suprarenal system. Before treatment the effects of corticotropin on the eosinophil count, elimination, rate of 17-ketosteroids, and uric acid/creatinine quotient were determined in 12 patients. The diencephalon-hypophysial-suprarenal system was normal in seven cases. There were functional disorders of the diencephalon-hypophysial segment in four cases and of the suprarenal segment in one case. There was no relation between the acuteness and extension of psoriasis and the condition of the hypophysial-suprarenal system. Cortisone was given to all patients in daily doses of 50 to 100 mg. for 20 consecutive days. After this doses diminishing progressively to 10 mg. were given, in association with vitamin C, at intervals of two or three days and then weekly until a total of 30 or 40 injections had been given. In the three patients with rheumatoid arthritis, the psoriasis had lasted 11, 8 and 1 years, respectively, and the arthritis had lasted for 3½, 2 and 1 years, respectively, and did not respond to antirheumatic treatment. Cortisone treatment resulted in permanent remission of rheumatoid arthritis, with persistence or recurrence of psoriasis. In the 35 patients with psoriasis without rheumatoid arthritis that could be followed, early improvement was followed by recurrence of the disease on discontinuation of treatment in 21 patients. The course of the disease did not change during treatment in 12 patients, and there was an aggravation of the disease in two cases. In all cases, either with or without rheumatoid arthritis, the drug had a favorable effect on erythema but not on parakeratosis. The treatment resulted also in a reduction in the erythrocyte sedimentation rate, an increase in blood sugar levels, elimination of 17-ketosteroids, and uric acid/creatinine quotient. The effects of cortisone on psoriasis are nonspecific. The improvement of rheumatoid arthritis and of erythema is due to the antiphlogistic properties of the drug. The results of these observations stand against the theory that psoriasis is a syndrome of adaptation to hypophysial-suprarenal disorders.

Malingering Simulating Cutaneous Myiasis.—A weak and emaciated single woman of 25, who spent much of her life in bed, complained of a cutaneous lesion in the lower part of the abdomen. This consisted of local inflammation, fistulas, and ulcers oozing a fetid secretion. What appeared to be minute subcutaneous tumors, simulating those of actinomycosis or myiasis, were scattered over the area. Laboratory examination showed that the supposed tumors were nothing more than pieces of cotton. The patient protested when she was charged with malingering. Formation of the tumors stopped and the lesion improved when the patient was closely watched and no more dressings for the lesion were provided. The fistulas were closed surgically and the lesion was débrided with the patient under barbiturate ("narcouene") anesthesia. Under anesthesia the patient confessed that two years previously she had deliberately burned the lower part of her abdomen with a hot water bottle and had since repeatedly introduced minute balls of cotton under the skin of the lesion during the night when she was not being watched. Following an admonition, the patient stopped this practice. One week later she was discharged from the hospital with healed lesions. Subsequently her general condition improved constantly, she ate better, and she seemed to be entering into normal life again.

Archivio Italiano di Chirurgia, Bologna

75:331-410 (No. 5) 1952. **Partial Index**

Benign Lymphoreticulosis Following a Dog's Bite. L. Citterio.—p. 331.

Ureterotomy with Extraperitoneal Pubic-Umbilical Incision for Pelvic Ureteral Lithiasis. F. Mor.—p. 347.

*Syndromes Following Gastric Resection. S. Tirone.—p. 367.

Syndromes Following Gastric Resection.—A follow-up study was made of 50 patients who had had a gastric resection to evaluate the functional and organic syndromes secondary to the operation. The functional syndromes are generally classified as (1) early postprandial dumping syndrome and diarrhea; (2) late postprandial accelerated digestion and hypoglycemia; and (3) deficiency syndromes including anemia, weight loss, and vitamin deficiency. The efferent loop dumping syndrome attributed to a rapid emptying of the gastric stump, increased pressure within the jejunum, or distension of its walls is the commonest dysfunctional syndrome and was found in five patients (10%), in all of whom gastroscopy had revealed edema at the site of the anastomosis. Generally, this disturbance disappears spontaneously within two years. Postprandial diarrhea, which in the early postoperative course occurs after a meal (14 to 20 minutes), was found in one patient only after two months but had disappeared by the end of the fifth month. The author attributed this syndrome to motor alterations of the intestinal action rather than to achlorhydria. The late postprandial syndrome, with accelerated digestion and hypoglycemia, was not found in any of these patients. Castle's intrinsic factor was decreased, and a mild microcytic-hypochromic anemia was found in 86% of the patients. This was attributed to absence of hydrochloric acid, which interferes with the absorption of iron and vitamins, rather than to the decrease of Castle's intrinsic factor. There were never less than 3,500,000 red blood cells per cubic millimeter and the hemoglobin was never less than 70%. No patients had vitamin B deficiency, and in 90% of the patients, as the digestive tract adjusted to the new anatomical and physiological condition, there was a gradual average weight increase of 4 kg. Organic syndromes are, as a rule, less frequent than functional. In two of the patients chronic noncalculous cholecystitis developed, in five, gallbladder stasis, and in three, cholelithiasis. In two with the last named condition a cholesterol calculus was found at operation. Four patients showed atrophic gastritis, and six patients in whom gastroscopy had revealed that the catgut had not been absorbed had hypertrophic gastritis. Medical therapy produced clinical and systemic improvement in these patients. In general, however, medical therapy is not sufficient for syndromes secondary to gastric resection. A good qualitative and quantitative diet is suggested, together with administration of the enzymes that the gastric stump lacks. Gastroscopy should always be performed.

British Journal of Cancer, London

6:215-338 (Sept.) 1952. **Partial Index**

"Ulcer-Cancer" of the Stomach. A. D. Beattie and M. J. Moroney.—p. 215.

Cutaneous Angiosarcoma with Metastases. O. G. Lane.—p. 230.

Epidermal Mitotic Activity and Carbohydrate Metabolism in Tumour-Bearing Mouse. J. O. Laws.—p. 242.

Behaviour of Mammary Tumour Inducing Agent in Transplantable Mammary Tumour in Mice. L. Dmochowski.—p. 249.

Inhibition of Tumour-Growth After Oral and Parenteral Treatment with Nitrogen Mustards and Triethylene Melamine. O. Peczenik.—p. 262.

*Carcinogenic Azo-Compounds: Chemical Constitution and Carcinogenic Activity. G. M. Badger and G. E. Lewis.—p. 270.

*Value of the Rabbit for Carcinogenicity Tests on Petroleum Fractions. I. Hieger and D. L. Woodhouse.—p. 293.

Experiments on Mechanism of Action of Tetra-Sodium 2-Methyl-1: 4-Naphthohydroquinone Diphosphate as Mitotic Inhibitor and Radiosensitiser, Using Technique of Tissue Culture: Experimental Methods and Quantitative Results. J. S. Mitchell and I. Simon-Reuss.

Carcinogenic Azo Compounds.—Soon after the discovery of the carcinogenic activity of 1:2:5:6-dibenzanthracene some investigators reported that the addition of *o*-aminoazotoluene to food leads to malignant liver tumors in rats. Scores of other azo compounds, which are used as textile dyes and some for food coloring, have been tested for carcinogenic activity and while many have been shown to be active, most of the food-coloring matters failed to induce liver tumors in rats. In any case, it is most unlikely that anyone could ever consume enough of an

azo compound in food to have any deleterious effect. Nevertheless the risk has recently been underlined by the report that benzeneazo-β-naphthol is a hepatotropic carcinogen when injected subcutaneously in mice. This review attempts to assess the present status of the relationship between chemical constitution and carcinogenic activity. Many derivatives of azobenzene produce cancer of the liver when administered to rats and mice on a restricted diet, but the diet must be low in riboflavin and in protein. Most of the active compounds are amino, methylamino, or dimethylamino derivatives of azobenzenes; but an amino- group is not essential for carcinogenic activity. The hypothesis that carcinogenic activity is associated with an optimum density of electrons at the —N=N— linkage is supported by recent experimental work, but further research is necessary before any definite conclusions can be drawn.

The Rabbit in Carcinogenicity Tests on Petroleum Fractions.—Although rabbits were used in the classical experiments of Yamagiwa and Itchikawa in 1918, which first proved the carcinogenicity of coal tar and were employed in early experiments on tar cancer, most investigators have favored the mouse for large scale experiments and the mouse has become accepted as the most sensitive test animal for work on the carcinogenicity of petroleum products. Recently, however, Cruikshank and Squire obtained numerous papillomas on the ear and body skin of albino rabbits after applications of a "cutting oil" obtained from a machine sump, whereas only 1 benign papilloma was produced by this oil in a group of 46 mice. It was then suggested that such materials should be tested in both species before being regarded as noncarcinogenic to man. This suggestion was followed in the studies reported here. Tests were carried out in two laboratories to determine the carcinogenic action on the skin of mice and rabbits of three typical crude mineral oils and 15 fractions derived from them by processes avoiding cracking. The activity on mice of all the fractions was very slight; some, particularly those with a boiling range of 325 to 375 C, showed high activity on the rabbit ear and body skin. Both series of experiments demonstrated, therefore, that the rabbit was more sensitive to these types of oil than the mouse, and it is concluded that this species should be included in carcinogenic tests on this type of material.

British Journal of Industrial Medicine, London

9:245-328 (Oct.) 1952

Blood Changes in Industrial Disease. R. E. Lane.—p. 245.
Carcinogenic Action of 4-Aminodiphenyl and 3:2'-Dimethyl-4-Aminodiphenyl. A. L. Walpole, M. H. C. Williams and D. C. Roberts. —p. 255.
Sickness Absence Recording in Industry. J. P. W. Hughes.—p. 264.
*Some Effects of Paid Sick Leave on Sickness Absence. R. A. Denerley. —p. 275.
An Analysis of Absence Under a Scheme of Paid Sick Leave. R. B. Buzzard and W. J. Shaw.—p. 282.
Role of Staphylococcal Infection in Beat Disorders of Miners. J. B. Atkins and J. Marks.—p. 296.
Studies on Cotton Dust in Relation to Byssinosis. Part III: Comparison of Cotton Dust and House Dust by Chemical and Skin Tests. H. R. Cayton, G. Furness, D. S. Jackson and H. B. Maitland.—p. 303.
Airborne Bacteria in Cotton Mills: I. Survey of Counts of Viable Bacteria. D. G. Drummond and M. Hamlin.—p. 309.

Effects of Paid Sick Leave on Sickness Absence.—This report considers the effects on sickness absence of two schemes for the payment of wages during illness and injury. Company Z, a large organization employing over 40,000 workers, granted sick leave with full pay for a number of weeks each year to all workers with six months' service. Company V, another large industrial organization, granted similar sick leave only to certain "established" workers selected on grounds of individual merit. At the same time all nonestablished men who had completed three years' service qualified automatically for sick pay at a reduced rate. In both companies medical certificates were required on the third day of absence and subsequently at weekly intervals, but certificates were not required for absences of less than three days' duration provided that a satisfactory explanation was given. Company V employees were paid for the first three days of illness; company Z employees were not. In company Z sickness absence rose from 2.6% in the year before the introduction of sick pay to 6.1% in the year after it was introduced. In one department, where bonus earnings were exceptionally high, the introduction of sick pay had no effect on sickness absence until earnings were substantially reduced. In company V sickness absence for established men was roughly double that for nonestablished men. Some of this increase was attributable to the higher average age of the established men, but when men of the same age were compared, the difference in sickness absence was still appreciable. There was evidence that a few established workers abused the scheme, particularly those who had only recently begun to benefit from it.

British Medical Journal, London

2:1115-1164 (Nov. 22) 1952

*Indications for Radio-Iodine Treatment of Thyroid Carcinoma. E. E. Pochin, G. Hilton, N. B. Myant and others.—p. 1115.
*Early Stages of Thyroid Carcinoma. M. Dargent and P. Guinet.—p. 1122.
Effect of Cortisone Upon Skin Sensitivity to Tuberculin in Sarcoidosis. D. A. Pyke and J. G. Scadding.—p. 1126.
Testing of Skin Disinfectants. P. Story.—p. 1128.
Protein Content of Breast Milk of African Women. D. B. Jelliffe. —p. 1131.
Failure of Massive Doses of Vitamin B_{12} in Acute Leukaemia. I. Welsh. —p. 1133.
Use of A.C.T.H. in Agranulocytosis. H. Fuld.—p. 1133.

Radioactive Iodine Treatment of Thyroid Carcinoma.—The most direct evidence of radioactive iodine uptake in a tumor is obtained by examination of biopsy material, comparing the radioactivity per gram of tissue removed from the neck with that per gram of plasma removed at the same time, or by autoradiography provided that an adequate test dose of several millicuries is given. These biopsy methods, however, are often inadequate for the selection of cases for treatment with radioactive iodine since repeated tests may be required to determine the uptake and frequent biopsies of carcinomatous tissue are rarely desirable. Even single biopsies of some metastases may be impracticable. Selection of patients for treatment with radioactive iodine may then depend upon external counting methods. Of 27 patients with histological evidence of primary or metastatic thyroid carcinoma, radioactive iodine uptake before thyroid ablation was demonstrated definitely by external counting methods in only 2, and was probable but not certain in 4 more. In the remaining 21 no uptake could be demonstrated at this stage, although in 7 there were metastases remote from the thyroid. The thyroid was then removed surgically or rendered inactive by radioactive iodine in 16 patients. After the removal or during subsequent treatment with radioactive iodine in these 16 patients, conclusive evidence of uptake was obtained by external counting in 6 patients with probable uptake in 4 more. Uptake was indicated in an additional case by considerable tenderness and reduction in size of enlarged submental lymph nodes during treatment with radioactive iodine. In at least one other case the absence of uptake after removal of the thyroid was associated with a diminution in the tumor mass and may have been due to destruction of the tumor. Uptake of radioactive iodine had thus occurred in at least one-fourth, and probably in over one-third, of the patients, as shown by external counting. These methods, particularly by profile counting, are valuable in detecting and following the degree of such uptake, which may become apparent only after removal of the thyroid. It seems likely that all patients in whom biopsy reveals a well-differentiated thyroid carcinoma that cannot be removed surgically should be investigated with radioactive iodine, preferably after thyroid removal. In a substantial proportion of such patients radioactive iodine may be useful in treatment even though the tumor has already metastasized.

Early Stages of Thyroid Carcinoma.—Pathological studies in eight cases of thyroid carcinoma associated with a well-defined adenoma showed two types of lesion: (1) a well-encapsulated adenoma, which may remain benign indefinitely alongside a cancer, as shown in four of the authors' eight cases; and (2) the improperly called "malignant adenoma," which is a carcinoma from the first and can develop in normal tissue (one case), or in a diffuse goiter without degeneration of the goiter into carcinoma (one case). The last two of the authors' cases showed clearly that a benign process can appear concurrently with a malignant recurrence, or can occur by itself in the remaining healthy parenchyma after removal of the cancer. The view that thyroid carcinoma may arise in a preexisting adenoma

is challenged. Evidence from the relative incidence of adenoma and cancer in 472 cases of goiter and in 116 of thyroid carcinoma observed between 1934 and 1940 in the two sexes and at different ages is against it. It is suggested that any adenoma that seems to become malignant in less than 10 years from its initial appearance was in reality malignant from the first. The following practical conclusions are drawn: 1. Use of antithyroid drugs such as thiouracil in a patient suffering from an apparently benign adenoma or toxic goiter may be dangerous, as hyperplastic parenchyma may become malignant. 2. Enucleation of a so-called adenoma, even if it is apparently well isolated, does not prevent the appearance of carcinoma, because the malignant process can develop in the surrounding tissue, or because, the adenoma being already cancerous, the operation was obviously an unsatisfactory treatment.

Die Medizinische, Stuttgart

No. 47:1483-1514 (Nov. 22) 1952. **Partial Index**

The Liver and Gynecologic Disorders. W. Grab.—p. 1483.
*Are Second Attacks of Scarlet Fever More Frequent After Penicillin Therapy? L. Schümer.—p. 1489.
Stored Serum in Surgical Care of Accident Cases. W. Beck.—p. 1491.
Pathogenesis, Therapy and Prophylaxis of Bronchial Asthma. O. von Lilienfeld-Toal.—p. 1494.

Second Attack of Scarlet Fever After Penicillin Therapy.—The literature has repeatedly called attention to the fact that after penicillin therapy relapses of scarlet fever are more frequent than when penicillin has not been used. There have been few reports of new attacks after a longer interval. If the interval between attacks is short, it may be difficult to decide whether the new attack is really a new infection or an endogenous reinfection. Schümer says that at her clinic three patients were seen who had a new attack of scarlet fever from 12 to 18 months after a previous attack during which penicillin had been used for treatment. Although second attacks are not unknown after untreated scarlet fever, at her clinic no second attacks were observed among 477 cases in which penicillin had not been used, but three second attacks occurred in 292 scarlet-fever cases in which penicillin had been employed. The histories of these three patients are described. In one child a second attack was proved by the clinical course, by a positive blanching phenomenon, and by a history of renewed exposure in school. In the second case, although it was impossible to ascertain renewed exposure, the characteristic exanthem with subsequent typical exfoliation is regarded as proof of a true second attack 18 months after a first attack, which had been moderately severe. In the third child the second attack occurred 15 months after a very severe first one, in which penicillin had been used for a long time because of a complicating myoendocarditis. It is noteworthy that all three of these children had received sulfonamides from one to three days before the second attack, but the author gives reasons why the exanthem cannot be regarded as a drug exanthem. It is believed that these second attacks are the result of inadequate immunization in penicillin-treated scarlet fever.

Klinische Wochenschrift, Berlin

30:913-960 (Oct. 15) 1952. **Partial Index**

Therapy of Rheumatism and Bronchial Asthma and Its Relation to the Adrenal System. R. Prosiegel, A. Goelkel, U. Fuchs and H. Moll.—p. 918.
Importance of Continuous Electrophoresis Studies in Course of Diphtheria and Scarlet Fever. E. Hiller and E. Granzer.—p. 923.
Method of Demonstrating Hemosiderin in Blood and Bone Marrow Smears. B. J. Koszewski.—p. 926.
Clearance Studies During Action of Visammin. E. Gadermann and H. Hamm.—p. 931.
Course of Healing in Amyloid Nephrosis. G. A. Martini.—p. 934.
*Experimental Studies on Nerve Regeneration with Simultaneous Sympathectomy. A. Crone-Münzebrock.—p. 937.
Cytomorphologic Peculiarities (Atypical Megaloblastosis and Siderocytes) in Acquired Hemolytic Anemia of the Loutit Type. D. Remy.—p. 947.

Studies on Nerve Regeneration After Sympathectomy.—Sympathectomy has been used for trophic disturbances resulting from interruption of nerves. It has been suggested that after the division of a mixed nerve the vessels are brought under the exclusive dominance of the sympathetic nerve and this leads to vasoconstriction and trophic disturbances. The author mentions investigators who in especially severe trophoneurotic lesions, combined nerve suture with an intervention on the sympathetic, in order to improve the nutrition of the region innervated by the injured nerve and possibly to improve the regenerative tendency of the nerve itself. In this report the author describes animal experiments that he carried out in order to ascertain whether sympathetic resection would accelerate and improve nerve regeneration. He found that the regeneration of the sutured nerve was not sufficiently promoted by sympathectomy to justify routine use of sympathectomy following nerve suture, but trophoneurotic ulcerations and disturbances were more quickly cured by the combined procedure.

Lancet, London

2:945-994 (Nov. 15) 1952

Future of Surgery in Treatment of Spontaneous Cerebral Haemorrhage. M. A. Falconer.—p. 945.
Results of Treatment of Cancer of Cervix. J. B. Blaikley, M. Lederman and T. L. T. Lewis.—p. 950.
*Reversibility of Malignant Hypertension. G. W. Pickering, A. D. Wright and R. H. Heptinstall.—p. 952.
Role of Bronchial Veins in Mitral Stenosis. J. C. Gilroy, P. Marchand and V. H. Wilson.—p. 957.
*Acute Pellagra During Isoniazid Therapy. R. B. McConnell and H. D. Cheetham.—p. 959.
*Confusional Psychosis with Residual Organic Cerebral Impairment Following Isoniazid Therapy. R. A. Hunter.—p. 960.
Carcinoma of Pancreas Associated with Fat-Necrosis. S. H. Jackson, R. S. Savidge, L. Stein and H. Varley.—p. 962.

Reversibility of Malignant Hypertension.—Malignant hypertension was changed to the benign form in three patients, a 33-year-old man and two girls aged 11 and 13 by surgical intervention. All three patients had pyelonephritis. Arterial pressure was reduced by nephrectomy in the adult, by subtotal adrenalectomy in one of the children, and by sympathectomy and subtotal adrenalectomy in the other. At operation all three patients had albuminuric retinitis and acute arteriolar necrosis in kidney and adrenal. All patients are alive and symptomatically well five or six years after surgical intervention, with less severe hypertension, a normal blood urea level, and normal urea concentration. These observations demonstrate conclusively that malignant hypertension is reversible, and support the hypothesis that the benign and malignant forms of hypertension are simple consequences of the severity of the hypertension.

Acute Pellagra During Isoniazid Therapy.—In a 22-year-old man diagnosis of tuberculous peritonitis was confirmed by laparotomy and biopsy of the omentum. At first he responded to streptomycin and *p*-aminosalicylic acid, but while in a sanatorium his condition deteriorated. He had a further course of streptomycin at home but without benefit. When admitted to hospital, his weight was 112 lb. (50.9 kg.) and he was emaciated. The feces and urine were repeatedly examined for tubercle bacilli but none were found. Treatment was started with isoniazid in doses of 200 mg. twice daily (8 mg. per kilogram of body weight per day). Within three weeks of starting this treatment, the patient had symptoms and signs of gross nicotinic acid deficiency. During this time the only other drugs he received were secobarbital sodium, iron administered intravenously, and a vitamin preparation not containing the B_2 group. It seems likely that the isoniazid was the direct cause of the pellagra. As no previous case of fully developed pellagra has been reported during isoniazid treatment, its affinity is probably not great and its pellagra-producing effect depends on a low initial nicotinamide level. Most patients develop a voracious appetite, and they may be protected by the consequent high intake of B_2 vitamins. The authors' patient was one of the minority whose appetite does not improve greatly. Until further investigation has been carried out, it may be advisable to give vitamin B_2 complex to all patients taking isoniazid whose appetite remains poor.

Psychosis Following Isoniazid Therapy.—A 41-year-old woman with chronic bilateral pulmonary tuberculosis was treated in her home with isoniazid in a dose of 3.5 to 5 mg. per kilogram of body weight for three months. During this time tingling feelings in the extremities occurred, and the patient lost weight. The dose of the drug was then doubled to 8 to 10 mg. per kilogram of body weight for another month. Early signs of involvement of the central nervous system were confusion and loss of memory, followed by insomnia and anorexia. The patient had a

toxic psychosis characterized by confusion and later dryness of the mouth, retention of urine, constipation, tremor, muscular twitching, exaggeration of reflexes, and a microcytic hypochromic anemia. Within eight weeks after the patient had received the last dose of isoniazid, she was left with signs of organic cerebral impairment of the Korsakoff type. The confusion and impairment of memory that appeared in this patient before other gross signs of toxicity, may, in retrospect, be interpreted as danger signals of cerebral damage.

2:995-1044 (Nov. 22) 1952

Lipomas. C. Wakeley and P. Somerville.—p. 995.
General Anaesthesia for Tonsillectomy by Dissection in Children: Technique Based on Intravenous Thiopentone. J. Bullough.—p. 999.
*Hypotensive Actions of Hexamethonium Bromide and Some of its Homologues: Their Use in High Blood-Pressure. F. H. Smirk.—p. 1002.
"Harlequin" Colour Change in the Newborn. G. A. Neligan and L. B. Strang.—p. 1005.
Primary Carcinoma of Liver Following Viral Hepatitis: Report of Two Cases. J. M. Walshe and H. H. Wolff.—p. 1007.
Investigation of Blood-Groups and Search for Sickle-Cell Trait in Yemenite Jews. F. Dreyfuss, E. W. Ikin, H. Lehmann and A. E. Mourant.—p. 1010.
Isoniazid in Leprosy. J. Lowe.—p. 1012.
Dietary Liver Necrosis: Influence of Environmental Temperature and Mode of Feeding on its Production in the Rat. J. M. Naftalin.—p. 1013.
Rickets and Amino-Aciduria. J. H. P. Jonxis, P. A. Smith and T. H. J. Huisman.—p. 1015.

Hypotensive Actions of Methonium Compounds.—In hypertensive patients the action of hexamethonium bromide was compared with those of two new ganglion-blocking agents, namely N,N,N′,N′3-pentamethyl-N,N′-diethyl-3-azapentylene-1,5-diammonium dibromide ("pendiomid") and hexamethylene bisethyldimethylammonium bromide ("gaplegin"). Results showed that these three drugs are qualitatively similar in reducing blood pressure, causing postural hypotension, and inducing toleration after repeated administration. The administration of any one of these substances induces toleration to its homologues. Ten or more times as much of all these compounds are required for oral administration as for subcutaneous injection. By subcutaneous injection, before toleration developed, approximately equal drops in blood pressure were induced by 7 mg. of "gaplegin," 15 mg. of hexamethonium bromide, and 17 mg. of "pendiomid." After toleration had developed, "pendiomid" was usually much less effective than either hexamethonium bromide or "gaplegin." In a few hypertensive patients "gaplegin" was rather better tolerated than hexamethonium bromide in the sense that, for equal drops in blood pressure, side-effects were less severe. Two illustrative cases are reported in detail.

Medical Journal of Australia, Sydney

2:609-648 (Nov. 1) 1952

*Overlaying of Infants. K. M. Bowden.—p. 609.
Some Observations on Use of Cutler Universal Integrated Ocular Implant. M. C. Moore.—p. 611.
Infectious Hepatitis in Older Age Groups. E. G. Saint.—p. 613.

2:649-680 (Nov. 8) 1952

Mortality from Violence in Australia. H. O. Lancaster.—p. 649.
Mortality from Violence in Childhood in Australia. F. W. Clements.—p. 654.
Anaerogenic Paracolon Bacilli Associated with Gastro-Enteritis in Children. G. W. Brown.—p. 658.

Suffocation of Infants by Overlaying.—Bowden defines overlaying as suffocation of a child in bed due to some other sleeping person lying on him. The term is sometimes more loosely used to include suffocation of the child by bedclothes while he is in bed with another person. In the absence of a careful autopsy it should never be concluded that a baby has been killed by overlaying simply because he is found dead in bed with his parents. Pathologists who carry out postmortem examinations at the request of the coroner know how misleading circumstantial evidence about a death can be. Of 170 infants brought to the city morgue in Melbourne over a four year period, 11 had been found dead in a bed in which one or both parents were sleeping at the time. The results of the postmortem examinations on these 11 children are presented here. In the first 10 of these cases it was decided that death was due to natural disease. In some infants congenital heart disease was found and in others pneumonia, bronchitis, meningitis, and gastroenteritis with gross liver changes. In the 11th case the only abnormal finding was a noticeable increase in pericardial fluid. The autopsy was not as complete as it could have been, but the usual so-called asphyxial picture was not found, so that if one ignores the finding of increased pericardial fluid, the most that could be said by a forensic pathologist would be that death was consistent with overlaying. The diagnosis of overlaying is a serious one for the parent concerned, for at the inquest the coroner could bring in a finding of death by accident, misadventure, manslaughter, or murder. No coroner should bring in a finding of overlaying on circumstantial evidence alone, nor should he accept the pathologist's opinion of asphyxial death unless a very careful autopsy has been conducted. The risk of overlaying can be eliminated by placing the baby or child to sleep by himself, even if it is only on the floor. A baby may die suddenly or unexpectedly from natural disease, and when that happens he may be in bed with his parents. The author believes that many cases of alleged overlaying in the past have really been deaths from unsuspected natural disease.

Nordisk Medicin, Stockholm

48:1481-1516 (Oct. 24) 1952. **Partial Index**

Modern Methods of Treatment of Strabismus. G. Rønne.—p. 1481.
*Corticotropin in Ectodermosis Erosiva Pluriorificialis (Stevens-Johnson Syndrome). H. Hauge.—p. 1484.
Penicillin During Radiotherapy of Cancer of Cervix. S. Kullander.—p. 1487.
Condition of Vagina After Abdominal Panhysterectomy. H. Dupont.—p. 1489.
Anemia Due to Isonicotinic Acid Hydrazide. N. Riska.—p. 1494.

Corticotropin in Ectodermosis Erosiva Pluriorificialis (Stevens-Johnson Syndrome).—The symptoms of the Stevens-Johnson syndrome are manifold and varying. They include fever, exhaustion, exanthem, affections of mucous membranes, and symptoms from inner organs and membranes. Fever and exhaustion are usual. The exanthem, which is of erythema multiforme type, may be absent. In graver cases the disorder is protracted and the subjective symptoms are pronounced. The disease may lead to loss of sight. The outcome can be fatal. During the last five years 28 patients, mostly adult, with the typical Stevens-Johnson syndrome were admitted to the epidemic department of Ullevål Hospital. The original diagnosis in one patient was erythema multiforme, in another stomatitis, and in the others diagnoses that did not in any case approach the correct one. The cause of the syndrome is unknown. There may be a predisposition; the disorder occasionally occurs several times in a patient, as seen in four of these cases. Most authors consider an infection or intoxication as the most frequent immediate cause. Tuberculosis is seldom the cause. The usual palliative measures are of little avail. Cases published in which antibiotics were effective were probably due to infections. In Hauge's material many of the patients were given penicillin, aureomycin, or other antibiotics, without effect. In sharp contrast, corticotropin, given in nine cases, had a good effect in all cases, and a dramatic effect in six. No patient had mild disease, and several had been unsuccessfully treated with penicillin or aureomycin. The temperature became normal in 1.7 days and other symptoms subsided with equal rapidity. There was no recurrence during the first months after the treatment. Corticotropin is not advised in the usual type of erythema multiforme, where the exanthem is often an innocent symptom of a graver basic disease, especially because the basic disorder may be tuberculosis.

Philippine Medical Association Journal, Manila

28:587-636 (Oct.) 1952

Tuberculin Studies in the Philippines: Comparison Between Danish and English Tuberculin Jellies for Moro (Patch) Tests; Comparison Between Moro (Patch) and Mantoux (Intradermal) Tuberculin Tests. S. Bona de Santos, F. Duñgo and F. Bacacao-San Luis.—p. 587.
Nutrition and Metabolism of Pathogenic Fungi. F. Bocobo.—p. 598.
Reasons for Disqualifying Some Donors from Giving Blood to Philippine National Red Cross Blood Banks. R. Y. Atienza and R. U. Zalamea.—p. 613.
Common Therapeutic Errors in General Practice. R. V. Guiang.—p. 618.

BOOK REVIEWS

Viral and Rickettsial Infections of Man. Edited by Thomas M. Rivers, M.D., Director of Hospital, Rockefeller Institute for Medical Research, New York. Aided by grant from National Foundation for Infantile Paralysis, Inc. Second edition. Cloth. $7.50. Pp. 719, with 90 illustrations. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.C.2; 2083 Guy St., Montreal, 1952.

This excellent volume bridges the gap between research and practice in a highly specialized field of medicine. The book has 39 chapters written by 29 different research workers who are experts in the fields about which they write. This edition has been enlarged over the previous one by the addition of new chapters (e. g., "Hemagglutination by Viruses") and new illustrative material. The general approach is a broad biological one. In the orientation chapter on general aspects, it is emphasized that knowledge of the viral and rickettsial diseases is built on the information concerning protozoal and bacterial diseases accumulated over many decades. The relationship of human viral diseases to arthropods and other insects and to other species of animals is illustrated in the sections on host range and mode of transmission that appear in many chapters. Some of the chapters review in minute detail the laboratory techniques adaptable to the study of viral and rickettsial diseases. The quality of the chapters is uniformly high, although the chapter on infectious mononucleosis does not match the standard of most of the rest of the book. For instance, the frequency of liver damage in this disease is not mentioned, and no critique of the therapeutic value of the broad-spectrum antibiotics is given.

Many fascinating details that have been encountered in the study of these diseases are included. The range in the size of viral particles in relation to other, more familiar biological particles is interesting; for example, the viral particles of foot-and-mouth disease are smaller than many protein molecules. Other viral particles, such as those of psittacosis, are as large as the rickettsias and are visible under the light microscope. The high degree of specificity of viruses for species of animals or plants and for cells within a given species is another interesting facet in this story. Some viruses, such as that of tobacco mosaic disease in plants, can be crystallized into apparently pure chemical compounds, resembling nucleoproteins, that seem to serve as a connecting link between inanimate chemical compounds and living agents. Other larger viruses, such as that of lymphocytic choriomeningitis, seem to have a definite organization within confining walls or membranes, in much the same fashion as do bacteria or other micro-organisms. As the viral particles break down, many liberate toxic components, which must be chemical substances, and which interfere with nutrition or respiration in the host cell.

The fact that parasitization of plant cells by one virus may block parasitization or persistence of a second virus in the same plant is a fascinating biological phenomenon. The persistence of viruses in cells, the transmission of small viruses that parasitize bacteria, the bacteriophages, and the persistence of some strains of living viruses in immune human beings are other intriguing phenomena. Apparently, the persistence within cells keeps immunity high, but the intracellular location prevents the eradication of the virus completely. The study of intracellular intermediary metabolites is a fruitful field for continuing research that may yield vital information concerning the chemotherapy of bacterial, protozoal, and fungous infections, as well as of viruses and tumors. The fact is emphasized that viruses and rickettsias are not killed by antibiotic therapy but that their reproduction is hindered. Most viruses are spread by direct contact from person to person, by inhalation of contaminated droplet nuclei in the air, or by the bite of an arthropod. A few isolated instances of transmission through milk or water are mentioned.

The book as a whole is beautifully produced. Some of the color photomicrographs are superb. The black and white photomicrographs have been chosen with care. The new electron micrographs of viruses prepared by the gold shadowing technique are particularly striking. The type is pleasing, and the book is printed on excellent paper. The contribution of the National Foundation for Infantile Paralysis, without which the compilation and printing of the book would not have been possible, represents a good use of the funds donated by the lay public.

Brain Surgeon: The Autobiography of William Sharpe. Cloth. $3.75. Pp. 271, Viking Press, Inc., 18 E. 48th St., New York 17; Macmillan Co. of Canada, Ltd., 70 Bond St., Toronto 2, 1952.

Like many another medical man who has reached the biblical three score and ten, Dr. Sharpe decided to write his own biography. The story of his life offers interesting reading of a rather familiar type. This is the typical American story of a young man who worked hard and who succeeded. Born and brought up in a family of somewhat limited means, the young man forged his way to success. Throughout the story one senses a frankness and a rugged optimism mingled with native naïveté that is refreshingly American.

His experiences at Harvard and in the European clinics are told in a straightforward and engaging manner. The best chapter is probably the one that tells of Dr. Sharpe's experiences at the Harvard Medical School in China, including a brain operation performed on the son of the first president of China. Dr. Sharpe's interest in the poor and the underprivileged and his contributions to worth-while causes shed a sympathetic light on an otherwise rugged figure. One could wish, however, that the author did not go to the trouble of explaining the motivations of his humanitarian endeavors. This and some of the philosophic observations on life constitute the weakest parts of the book.

The biography was apparently written for the laity rather than for the medical profession. Therefore, the author's digressions into the fields of diagnoses, and his contributions to the operation of temporal decompression and to the prevention and cure of cerebral palsy all constitute a somewhat controversial topic beyond the lay reader's scope. On the whole, the book offers an interesting and informative story.

Diseases of the Nervous System Described for Practitioners and Students. By F. M. R. Walshe, M.D., D.Sc., F.R.S., Consulting Physician to University College Hospital, London. Seventh edition. Cloth. $5.50. Pp. 365, with 63 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2; E. & S. Livingstone, Ltd., 16 and 17 Teviot Place, Edinburgh 1, 1952.

The popularity of this textbook by one of the foremost clinicians of modern medicine is attested by the fact that this is the sixth revision since it was first published in 1940. The author stated in the preface to the first edition that the purpose and scope of his work was a selective presentation of neurology for students and practitioners and disclaimed the intention of providing a comprehensive manual describing all known affections of the nervous system. He has adhered to this principle in all subsequent editions. The size of the volume has been held relatively constant by deletions when new material was added. The book is divided into two parts; the first, consisting of 60 pages, gives the general principles of neurological diagnosis with special emphasis on anatomic or localizing factors in diagnosis, and the second, totaling 27 chapters, gives a brief description of the common diseases and affections of the nervous system and a short chapter on the psychoneuroses. The material is well presented in a style that is direct and stimulating. The author, without appearing to be dogmatic, does not hesitate to express his own viewpoint regarding controversial and unsolved questions. The book is well printed and is illustrated with anatomic diagrams, pictures of patients, and pathological specimens. There is a brief but adequate index.

The author has succeeded in presenting the main facts regarding the diseases in which the nervous system is the main site of the pathological process. It is doubtful, however, whether a textbook of value to the student or practitioner of the present day

The reviews here published have been prepared by competent authorities and do not represent the opinions of any official bodies unless specifically stated.

can satisfactorily be presented in this number of pages. The volume would be of greater value if the author deleted the material on anatomic diagnosis in part 1 and used this space to amplify the description of some of the disease entities and to include a description of the neurological symptoms accompanying metabolic diseases and the neurological complications of other medical diseases. The addition of a selected list of references at the end of each chapter would also be of value to the student who wishes to delve deeper into the subject.

Allgemeine Diagnostik und Therapie der Hautkrankheiten als Einführung in die Dermatologie für Studierende und Praktiker. Von Dr. Hermann Werner Siemens, o.ö. Prof. für Haut- und Geschlechtskrankheiten an der Reichsuniversität Leiden. Cloth. 29.70 marks. Pp. 263, with 375 illustrations. Springer-Verlag, Reichpietschufer 20, Berlin W. 35 (West-Berlin); Neuenheimer Landstrasse 24, Heidelberg; Göttingen, 1952.

This work is unique among dermatological textbooks in that it deals solely with the broad, basic principles of dermatological diagnosis and therapy rather than with specific skin diseases and their treatment. This is in contrast to many standard works, which relegate the principles of morphological and topographic diagnosis and history-taking to a brief and inadequately illustrated introductory chapter, and ignore or discuss inadequately the theory of dermatological pharmacology. Dr. Siemens believes that one must acquire these basic tools if he is to cultivate a rational rather than an empirical approach to dermatology.

Approximately one-third of this book is devoted to a description of the various types of primary and secondary lesions that may be encountered on the skin, hair, or nails, the variations of these lesions in different diseases, and their sites of predilection, manner of spread, and arrangement. This section is profusely illustrated with black and white clinical photographs and drawings of good quality. There are shorter chapters on local and general symptoms, history-taking, and technical diagnostic aids. The section on therapy is devoted largely to the development of a system of dermatological pharmacology. The various types of dermatological vehicles and the most commonly used active ingredients are classified, and their properties and actions are discussed. Details of clinical use of these remedies, results obtained, and methods of controlled testing of therapeutic effects are described and illustrated. Chapters on physical therapy and minor surgery in dermatology include brief discussions of electrolysis, surgical diathermy, and therapy with ultraviolet light, x-rays, grenz rays, and thorium x. Internal medication is considered briefly. In contrast to the rest of the book, an introductory chapter on the anatomy and general pathology of the skin suffers from the absence of illustrations. This volume should prove valuable to teachers of dermatology and to undergraduate and postgraduate students who read German.

Diseases of the Ear, Nose and Throat in Two Volumes. Edited by W. G. Scott-Brown, C.V.O., M.D., B.Ch., Ear, Nose and Throat Surgeon, Royal Free Hospital, London. Cloth. $30. Pp. 802, with 338 illustrations; 686, with 260 illustrations. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1952.

This work on diseases of the ear, nose, and throat should have wide appeal for undergraduate medical students, graduate physicians, and otolaryngologists, since it contains considerable information in an attractive form for each group. Although a number of outstanding contributors express their personal reactions on a wide variety of subjects from time to time, these have been integrated with more conventional points of view to give a balanced proportion and a stimulating approach to the topics under discussion. Each section of this work is prefaced by a description of anatomy and physiology as an essential basis to the understanding of the clinical phases of the subject. The chapter on the physiology of the nose and paranasal sinuses is especially informative. Among the more interesting chapters are topics sometimes omitted or inadequately discussed in conventional textbooks. These are diseases of the lacrimal sac and duct, sinusitis in children, anesthesia, and speech defects and their treatment. A bibliography is appended to most of the chapters. The binding, printing, and illustrations are satisfactory. This work is highly recommended because it is one of the best all-around textbooks on diseases of the ear, nose, and throat that has come out of the British Isles in many years.

The White Plague: Tuberculosis, Man and Society. By Rene and Jean Dubos. Cloth. $4. Pp. 277. Little, Brown & Company, 34 Beacon St., Boston 6, 1952.

The Dubos' have sensed the dramatic in the history of tuberculosis and, in this book, present all of the interesting background material that gives meaning to the modern antituberculosis movement. Though there still is reference to tuberculosis as "the captain of all the men of death," it has fallen to such levels in the leading causes of death that many have forgotten that tuberculosis once set the patterns for art, literature, government, and social custom. When one considers that most of the great authors of the 17th, 18th, and 19th centuries were consumptive themselves and lived among persons ravaged by tuberculosis, which was so prevalent that mortality rates of several hundred per 100,000 were common, one can easily see why tuberculosis should have such an influence. Brief sketches touch on the experiences of John Bunyan, Keats, Shelley, Robert Louis Stevenson, the Brownings, Washington Irving, and the Brontës with tuberculosis. Most of the artists in this period expressed this influence by painting pictures of sallow, hollow-cheeked, anemic maidens with chalk-white skin and brilliant red highlights characteristic of advanced tuberculosis. Social life in the courts as well as lesser places was rarely interrupted by such common things as a massive pulmonary hemorrhage.

The history of medical attitudes toward tuberculosis is well presented and shows the change in the concept of contagion and heredity, the work of Von Auenbrugger on percussion and Laennec on auscultation, and the patterns of treatment that followed the discovery by Koch of the cause of tuberculosis. It is most interesting to see how the attack on tuberculosis changed from one on a disease that could be detected only in its advanced stages to one on a disease that now can be detected in minimal stages and that invariably can be cured when discovered early. It is equally interesting to watch the change from tuberculosis as a universally prevalent illness intensively transferred to the family and associates by the patient to tuberculosis in a society in which it is possible to trace accurately the spread and block it before many have become infected. Additional chapters cover the relationship of a growing industrial civilization to tuberculosis and the development of public health administration and other forms of social technology as means in the control of tuberculosis. Appendexes illustrating with charts and data the effects of time, urbanization, war, age, and sex on the prevalence and susceptibility to the white plague are included.

Administration and the Nursing Services. By Herman Finer, D.Sc., Professor of Political Science at University of Chicago, Chicago. Cloth. $4. Pp. 333. The Macmillan Company, 60 Fifth Ave., New York 11, 1952.

This book is thoroughly realistic and practical and contains an underlying philosophy that is an inspiration and a challenge to the nursing profession and to those closely associated with it. The author, a professor of political science, was director of the Kellogg Foundation Nursing Service Administration Research project. As the basis for this book, this study offers a guide, for the profession, toward comprehending the application of administration techniques and the social sciences to nursing service. The author presents a view and a philosophy derived from deep reflection on the problems as presented by representatives of the nursing profession, from much personal research, and from 25 years of teaching and practice in public administration and political science. He worked for several months with a seminar of representative members of the nursing profession in order to gain a more accurate focus on the practical problems in nursing service. This study does not concern itself with the administration of schools or colleges of nursing but rather with the administration of nursing service. While the book deals in principles, it is not academic. It is intended to secure results in thought and action. The author attempts to establish, from the complicated welter of nursing and other related experiences, some principles that may give the nurse awareness, supplemented imagination, and enhanced understanding of fundamentals so that she may develop the skills and answers needed in action-demanding situations. Also, these principles are intended to help the nurse develop better judgment in the evaluation of solutions, skills, and gadgets proffered by others. He states that administration is not a

panacea for all problems facing the nursing profession and that a thorough explanation of any one problem will help clarify other closely related problems. For example, he points out that all the administration techniques in the world will not solve the serious underpayment of nurses. This is a problem in its own right. Better administration, however, will use the available personnel more efficiently and, above all, will convert the hospital from one that is oppressive because of its antiquated authoritarian regime to one that is congenial because it is founded on knowledge, collaboration, and the democratic cooperative enterprise from the subordinate ranks of the nursing service up to the director.

The author has approached his subject impartially, unemotionally, and always with the deepest respect and understanding for the unique demands and satisfactions of the nursing profession. His book is rich in principles of which the practical implications are clearly demonstrated by examples from everyday nursing experiences. Each chapter warrants study and thought if full value is to be gained from its content. This book will undoubtedly be the basis for future monographs and textbooks on administration and the nursing services. It is a fine tribute to the nursing profession.

Post-Graduate Lectures on Orthopedic Diagnosis and Indications. Volume IV. Section A: Arthritis and Diseases of Muscles, Bursae Tendons and Fasciae. Section B: Deficiency and Degenerative Diseases of the Locomotor System. By Arthur Steindler, M.D., F.A.C.S., Professor of Orthopedic Surgery, State University of Iowa, Iowa City. Cloth. $9.75. Pp. 312, with 276 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1952.

In arrangement and discussion, this book is typical of Dr. Steindler's other works. The material is well organized and excellently presented although rather brief in some instances. The book is up-to-date, and, while these lectures have been given, in part at least, several times in the past, they have been revised so that the most modern concepts of treatment are included. A reference list follows the discussion of each subject. If any criticism could be made, it would be of the frequent separations, by one or two pages, of illustrations and their discussion in the text. This is not a great disadvantage and probably is due to the numerous illustrations used. The work of Dr. Steindler, in all of his books, stands as a definite tribute to his many contributions to both the practice of orthopedic surgery and orthopedic literature. This particular volume, while of primary interest to the orthopedic surgeon, is of definite value to the internist, who sees a great many arthritic patients in the early stages of the disease, in the discussion of arthritis and diseases of muscles. The second section, on deficiencies and degenerative diseases, would be of equal interest to the neurologist.

Surgery for Students of Nursing. By John Cairney, D.Sc., M.D., F.R.A.C.S., Director-General of Health for the Dominion of New Zealand, Wellington. With foreword by Miss M. I. Lambie, C.B.E., First Vice-President International Council of Nurses. Cloth. 40/-. Pp. 326, with 120 illustrations. N. M. Peryer, Limited, 145-147 Worcester St., Christchurch, C.1, New Zealand, 1952.

This is the first textbook of surgery to be published in New Zealand for students of nursing. It is based on typewritten notes that were issued to classes during the author's 20 years of teaching this subject to student nurses. The material was revised many times during this period. The author's aim is to develop some appreciation of the philosophy of surgery among student nurses. The illustrations were drawn by the author, and most of them have been tried for usefulness in the classroom. There are no bibliographies. The opening chapters set out the general principles that underlie surgical care. The following chapters cover various common surgical conditions and their treatment. Chapters on chemotherapy and the eye, ear, nose, and throat are included.

Both the author of this book and the former director of the Division of Nursing of New Zealand, who wrote the foreword, would seem to be well qualified to assemble and recommend material on surgical nursing that is keyed to the needs of students in that country. The material is simply and briefly discussed. It is somewhat elementary and consists essentially in the presentation of facts. There is no effective interrelation or association of the surgical condition with the nursing care, which would seem desirable in a textbook for students. This may be due in part to a difference in concepts of good nursing care. While the book would be of greater value if the relationship between medical and nursing care were more clearly demonstrated, the author has nevertheless approached this work with a progressive, common sense philosophy. Although it is hoped that certain adjustments in material will be made in future books on this subject in New Zealand, it is also hoped that such changes will be motivated by the same ideas as those guiding this author in the preparation of this textbook.

Ophthalmic Plastic Surgery. By Sidney A. Fox, M.S., M.D., F.A.C.S., Assistant Clinical Professor of Ophthalmology, New York University Post-Graduate Medical School, New York. Cloth. $15. Pp. 290, with 133 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1952.

In the field of plastic operative procedures in the region of the eyelids, the ophthalmic surgeon and the general plastic surgeon frequently meet in a struggle for precedence. While each of the involved surgical specialties has its favorite methods, one can learn much from the other. In this book the author, an ophthalmologist, presents his views, which, while intended primarily for his fellow specialists, might be studied with profit by any general surgeon interested in plastic procedures about the face. No attempt is made to present all the acceptable operative methods; only those the writer has found most valuable are included. Descriptions are for the most part presented in lucid form and are further clarified by adequate photographs and diagrams, without which any textbook on plastic surgery would be confusing to the reader. The first chapter presents a brief review of the surgical anatomy of the eyebrow and the lids. It is followed by chapters on the fundamentals of lid surgery, grafts, and technical details. The balance of the book contains chapters on the correction of various types of deformities of the eyelids, conjunctiva, and sockets. The methods recommended are all well established and time proved and may safely be included in the surgical armamentarium of the ophthalmic or plastic surgeon.

The Earliest Stages of Delinquency: A Clinical Study from the Child Guidance Clinic. By H. Edelston, M.B., D.P.M., Psychiatrist and Director, Bradford Child Guidance Clinic, Bradford, England. Cloth. $2.50. Pp. 200. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2; E. & S. Livingstone, Ltd., 16 and 17 Teviot Place, Edinburgh 1, 1952.

Interesting information on how the problem of delinquency is being attacked in England is provided in this small volume by a worker with nearly 15 years' experience in child guidance. Stimulus for the book was the disturbing fact that, after a sharp fall in 1946 and 1947, there was an unaccountable rise in delinquency problems in 1948. The work of the Bradford Child Guidance Clinic is the central theme, and, at the same time, the author presents interpretative considerations of opinions in a field that is noted for its plethora of opinions, many of which are strongly conflicting. In part 1 of the book the method of approach and the technique of clinical examination are considered. In part 2, treatment and adjustment procedures are described, with numerous case histories. In the final section, conclusions and remedies are detailed. The volume should be of assistance to workers in this important field.

Current Therapy 1952: Latest Approved Methods of Treatment for the Practicing Physician. Editor: Howard F. Conn, M.D. Consulting editors: M. Edward Davis and others. Cloth. $11. Pp. 849, W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5, 1952.

The average physician in general practice often finds it difficult to keep abreast of the therapeutic advances that are continually being made. He must rely on methods prescribed by the experts who have made a special study of the treatment of specific diseases. This volume provides up-to-date information about rational therapy of somatic disease conditions. Its editor has enlisted the services of recognized authorities in all the various fields of therapy. Frequently the prescribed method of treatment of a specific disease condition contributed by one authority is followed by that of another authority. In general, the experts disagree on only the relatively minor aspects of treatment of any given disease. The general practitioner will find this a useful reference volume to guide him in handling his everyday practice,

QUERIES AND MINOR NOTES

MALPRACTICE INSURANCE

TO THE EDITOR:—*A number of my colleagues have complained that their malpractice insurance rates have been increased recently. My policy expires about June 1. Do you think I should plan for an increase in rates? Can you tell me anything about how rates are established and why they should be increased now?*

M.D., Illinois.

Because numerous inquiries have been received relative to recent changes in malpractice insurance rates, the office of the Council on Medical Service has prepared the following memorandum.—ED.

ANSWER.—Without specific knowledge of the limits of coverage you now carry and the rates you are currently paying, it is not possible to state specifically whether you can anticipate a rate increase when your malpractice (professional liability) insurance is due for renewal. Rate changes may be anticipated in several jurisdictions. Until recently each insurance company underwriting this class of risk did so on the basis of its own experience. There was little uniformity in such rates. More recently, litigation reversed a tradition of long standing and declared insurance to be interstate commerce. Resultant federal and state legislation has caused these rates to become subject to regulation by the insurance supervisory authorities in each state.

TABLE 1.—*Rates for Malpractice Insurance*

Territory	Rate	Territory	Rate
Alabama	$ 30.00	Montana	$50.00
Alaska	30.00	Nebraska	35.00
Arizona	35.00	Nevada	50.00
Arkansas	30.00	New Hampshire	25.00
California I *	100.00	New Jersey I †	35.00
II	90.00	II	20.00
III	75.00	New Mexico	50.00
Colorado	50.00	New York I ‡	75.00
Connecticut	25.00	II	55.00
Delaware	30.00	North Carolina	30.00
District of Columbia	65.00	North Dakota	35.00
Florida	45.00	Ohio	40.00
Georgia	25.00	Oklahoma	50.00
Idaho	35.00	Oregon	45.00
Illinois	25.00	Pennsylvania	20.00
Indiana	60.00	Puerto Rico	40.00
Iowa	35.00	Rhode Island	30.00
Kansas	35.00	South Carolina	25.00
Kentucky	35.00	South Dakota	60.00
Louisiana	25.00	Tennessee	40.00
Maine	30.00	Utah	45.00
Maryland	25.00	Vermont	30.00
Massachusetts	25.00	Virginia	30.00
Michigan	25.00	Washington	60.00
Minnesota	60.00	West Virginia	35.00
Mississippi	35.00	Wisconsin	50.00
Missouri	35.00	Wyoming	50.00

* California I comprises San Francisco and Alameda counties, II comprises Los Angeles county, and III is remainder of state.

† New Jersey I comprises Bergen, Essex, Hudson, Passaic, and Union counties, and II is remainder of state.

‡ New York I comprises New York City and Nassau and Westchester counties, and II is remainder of state.

The National Bureau of Casualty Underwriters has formulated rates for malpractice insurance. That bureau, which is a voluntary statistical and rating organization, is composed of member insurance companies. Some insurance companies do not handle a sufficient volume of some classes of insurance to provide statistical data for the formulation of rates on the basis of their own experience. Accordingly, the bureau uses the combined experience of the member companies as a basis for promulgating proper rates. The rates so formulated are filed in each state by the bureau on behalf of the members of the bureau and on behalf of the companies subscribing to its rate-making services.

These rates for each state except Texas and for subdivisions within some states are listed in table 1. The original printing of the bureau manual contained no rate quotation for Hawaii. Such rates are applicable to basic limits of $5,000 for any one claim and $15,000 for all claims during any insurance year. Rates applicable to risks in Texas will undoubtedly be announced shortly by the Texas Board of Insurance Commissioners.

In addition to its rate-making activities, the National Bureau of Casualty Underwriters also develops classifications of risks. The above-mentioned rates apply only to physicians engaged in individual practice who do not perform major surgery. Different rates as well as different classifications may apply in case you perform major surgery, use x-ray therapeutically, practice with other physicians in a formal group, are employed by another physician, or are identified with the ownership or management of a hospital.

Since the aforementioned rates apply to $5,000-$15,000 limits and since many physicians desire to carry increased limits, the factors calculated by the National Bureau of Casualty Underwriters and shown in table 2 may be used to determine the premium applicable to higher limits of coverage. To compute the rate for higher limits, multiply the basic rate in table 1 by the factor following the appropriate limits listed in table 2.

TABLE 2.—*Factors to Be Used in Determining Premiums for Higher Limits of Coverage*

Limit per Claim	Aggregate Limits	Factor
$ 10,000	$ 30,000	1.35
15,000	45,000	1.55
20,000	60,000	1.64
25,000	75,000	1.71
30,000	90,000	1.77
40,000	120,000	1.84
50,000	150,000	1.89
75,000	225,000	2.00
100,000	300,000	2.06

In all probability your insurance agent or broker will contact you sufficiently in advance of your renewal date. Should he fail to do so for any reason within 30 to 60 days in advance of your insurance anniversary date, it might be to your advantage to contact him and get specific details.

We are not in possession of sufficient data to answer definitely why malpractice insurance rates may be subject to increase at this time. Increased incidence in claims or more generous awards by juries may each have a bearing. In some jurisdictions both are possible. Generally speaking, insurance premiums are calculated so that the companies can anticipate sufficient income to pay claims and costs of administration for each class of coverage written. Competition among companies combined with rate regulation by state insurance departments tend to minimize the possibility of abnormal profits.

The administrative costs of malpractice insurance may exceed the ratios considered normal for certain other lines. This may be due to a feature that is peculiar to various forms of liability coverage. The insurer agrees not only to provide protection in the event a physician is deemed liable but also to provide legal defense against any and all claims, even though such suits may be without merit. In areas where persons are prone to bring suits against physicians it is easy for insurance companies to expend much larger sums for legal defense than they may pay for any liability.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

FACE LIFTING OPERATIONS

To the Editor:—*I have in psychoanalysis a woman in her early fifties who many years ago was given heavy roentgen radiation over the ovaries for dysmenorrhea. Her appearance is that of a woman older than her present age. She is active in a professional career in which personal appearance is important. The question of cosmetic plastic surgery suggests itself. What is the present status of so-called "face lifting" operations? The areas in need of correction (redundant wrinkled skin) are the neck and the tissues below the chin and under the eyes. What is the prognosis after such an operation, properly performed? Is it done in one stage? What is the usual time of postoperative disability and recovery? Are there any plastic surgeons in the East or Middle-West who have specialized in this type of remedial cosmetic facial surgery?*

M.D., New York.

Answer.—Premature aging is a handicap to women under any circumstances. Superimposed on the physical conditions responsible for the premature senescence, the apprehensions and fears engendered by the visible signs create or aggravate psychic instability. Once unfavorable factors within the person and in his environment have done their damage, surgical repair is indicated, provided the surgeon is qualified and all due precautions are taken. As the aging skin loses its elasticity and the subcutaneous fat is resorbed, folds and bags indicate the progress of senescence. Contraction of the superficial muscles causes wrinkles, which in the course of years become permanent. Wrinkles and bags under the eyelids are an inevitable consequence of the extreme elasticity of the skin in this region. Redundance of the upper lids is combated by the removal of excess skin through crescent-shaped excisions concealed beneath the orbital border. In the repair of the lower lids, the incision should be placed in the natural folds. On the cheeks, the advent of old age is evidenced by deepening of the nasolabial folds, by flabbiness, bag formation, and wrinkling. The redundant skin must be excised in such a way as to leave a firm facial covering without distortion. An extremely important element in the success of any "face lifting" procedure is the extent to which the skin is undermined. Horizontal folds or vertical bags extending downward from the chin may disfigure the neck. A fairly long incision is made behind the auricle, and the skin of the neck and lower cheek are widely undermined prior to skin excision. The success of these surgical procedures hinges on the thoroughness of the operative measures taken and the use of fine suture material to minimize scarring. The number of stages required depends on the extensiveness of the surgical repair. In advanced cases, the plastic repair of the lids, cheek, and neck should be done in two stages, with a local anesthetic being used. The time of postoperative local recovery is 10 to 14 days. Many good plastic surgeons (board members) are available in the East and Middle-West.

CONGENITAL MICROTIA

To the Editor:—*At what age should the operation for congenital microtia of one ear be performed? What are the present operative procedures, and where will I find them described?*

M.D., Ohio.

Answer.—It is not wise to begin reconstruction of congenital microtia until the child is of school age. Tube grafts and cartilage implants are more likely to shrink than to grow as the child grows, and the reconstructed ear will therefore fail to keep pace with the normal one. If the patient is a girl, the deformed ear can be concealed by the hair and the surgery deferred until the age of 12 or 13. The operative procedures involved are all complicated and necessitate several successive stages. The more cartilage and skin present in the deformed auricle, the better are the prospects of obtaining a satisfactory result. The varying techniques described testify to the general dissatisfaction with the ultimate result, and it is almost impossible to duplicate the good ear. The following articles in *Plastic and Reconstructive Surgery* describe the most recent attempts to correct this deformity: Steffenson, W. H.: Method of Correcting Atresia of Ear Canal, 1:322, 1946; Ford, J. F.: Method of Reconstruction of Auricle: Preliminary Report, 1:332, 1946; Maliniac, J. W.: Reconstruction for Partial Loss of Ear: Case Reports, 1:124, 1946; Aufricht, G.: Total Ear Reconstruction, 2:207, 1947; Pierce, G. W.; Klahunde, E. H., and Bergeron, V. L.: Useful Procedures in Plastic Surgery, 2:358, 1947; Steffanof, D. N.: Auriculo-Mastoid Tube Pedicle for Otoplasty, 3:352, 1948; Peer, L. A.: Reconstruction of Auricle with Diced Cartilage Grafts in a Vitallium Mold, 3:653, 1948; Lewin, M. L.: Formation of Helix with Postauricular Flap, 5:432, 1950; Davis, G. E.: Congenital Atresia of External Auditory Meatus, 8:173, 1951. The alternative to surgery is the employment of a latex prosthesis, which is modeled from a cast of the good ear and hand tinted to match. Such a prosthesis can be easily applied and removed at will and is a satisfactory substitute.

EFFECT OF NITROGEN MUSTARD ON THE LIVER

To the Editor:—*Is nitrogen mustard a hepatotoxic drug? Bethell and associates, in the* American Journal of Roentgenology (**64**:*61 [July] 1950) state that in the presence of jaundice or other evidence of liver damage, it should be withheld or be given with great caution. In view of a report in* The Journal (**147**:*1419 [Dec. 8] 1951) on the beneficial effect of nitrogen mustard in treatment of rheumatoid arthritis, it would be of interest to know whether this drug has any hepatotoxic effect.*

Benjamin H. Archer, M.D., New York.

Answer.—Extensive experimental studies in laboratory animals have generally failed to show liver damage as a prominent result of nitrogen mustard administration, most of the effects being on lymphoid tissue, bone marrow, gastrointestinal mucosa, nervous tissue, and gonads. Some degree of glycogen depletion and fatty infiltration of the liver have been noted, however, by Graef and co-workers (*Am. J. Path.* **24**:1 [Jan.] 1948), who also refer to unpublished work by H. Zimmerman that indicated that focal necrosis occurred in the livers of cats following the administration of nitrogen mustard. In the usual doses, nitrogen mustard does not produce clinical or laboratory evidence of damage to the liver in human beings who do not have underlying liver disease. The statement by Bethell and associates was based on an article by Dameshek, Weisfuse, and Stein (*Blood* **4**:338 [April] 1949). These authors reported areas of focal necrosis of the liver in patients with Hodgkin's disease who had previous evidence of liver involvement and who died within a few days after nitrogen mustard therapy. It is difficult to interpret such lesions in patients seriously ill with Hodgkin's disease. The danger of liver damage probably is not among the more important reasons for the need for caution in nitrogen mustard therapy of rheumatoid arthritis.

LOW PLATELET COUNT

To the Editor:—*What are the chances of survival of a woman, 33 years old, who has had a platelet count lower than 10,000 for three months, following presumed chloramphenicol poisoning? Bone marrow biopsy done in July showed hypoplasia of the marrow. The patient was delivered prematurely last September without excessive blood loss, and she is not bleeding at present. The baby, with erythroblastosis fetalis, was delivered in about the eighth month of pregnancy and did not survive. The future course of this patient is conjectural, especially during menstrual periods, with a platelet level of 5,000 at present. Hematological consultation has confirmed the diagnosis of an aplastic type of anemia.*

M.D., Louisiana.

Answer.—The data supplied are insufficient for the diagnosis of hypoplastic myelopathy. It would be necessary to know whether the patient has a normochromic, normocytic anemia and a leukopenia in addition to the thrombocytopenia. Assuming that that is the case, the patient should be given cortisone, 200 mg. for three days and 100 mg. thereafter for at least three weeks, since in some cases of hypoplastic anemia recovery may occur, although this is the exception rather than the rule. In hypoplastic myelopathy, the chances for survival are not great. Most patients die from hemorrhage in the heart or the brain within one year. In some instances, patients may live for several years, especially with the support of blood transfusions.

ACUTE HEMORRHAGIC NEPHRITIS

To the Editor:—*A 2½-year-old boy had an acute sore throat on July 4, which lasted two or three days. A smear showed what appeared to be streptococci. No culture was made. On July 7 it was noted that the patient's urine was clouded, and examination revealed the presence of red blood cells, casts, albumin, acetone, and sugar and a specific gravity of 1.026. Penicillin was given for three weeks; then oxytetracycline ("terramycin") was given orally for 10 days. At this time the only physical sign was slight puffiness under the eyes, which has now disappeared. The urine still shows a pH of 5, a specific gravity of 1.021, 40 to 50 red blood cells per highpower field, a few white blood cells, a considerable amount of mucus, and, rarely, blood casts and granular casts throughout the specimen. The urine remains slightly clouded. Can you advise proper treatment and prognosis? Should penicillin, oxytetracycline, or one of the sulfa drugs be used on this patient?*

J. W. Althaus, M.D., Temple, Texas.

Answer.—This child has had the typical course of acute hemorrhagic nephritis. The only abnormal findings on microscopic urinalysis noted in the query are red blood cells and casts. The child seemingly is recovering and should continue to improve. A surer prognosis could be given if the child were known to be afebrile and blood pressure readings normal. If the child's appetite is good, if he does not tire easily, and if he is not anemic, a normal diet and routine for a child of this age would seem the only treatment indicated. If the tonsils are infected, if the tonsillar glands are enlarged, and if there is a history of sore throats, it would be wise to remove the tonsils as prophylaxis against future sore throats. Finally, if the child is afebrile and the white blood cell count and sedimentation rate are normal, the use of antibiotics or sulfonamides would no longer seem necessary.

CANCER AND FOOD

To the Editor:—*Could the rising incidence of cancer be due to the better food with improved living conditions that is reducing the morbidity of tuberculosis on the one hand, and at the same time is making for an increase in sex hormone production, which is known to be carcinogenic in the susceptible?*

Louis Shalet, M.D., Jamaica, Long Island, N. Y.

Answer.—Considering the increased age level of our population, there appears to have been no general increase in the incidence of cancer. A few cancers, primarily cancer of the lungs and perhaps leukemia, have undergone what appears to be a real increase. In both instances, however, exogenous factors other than food are thought to explain the increase. Among those cancer types thought to be related to sex hormones, such as cancer of the fundus, breast, and possibly prostate, the extent of this relationship is still in doubt. Present cancer statistics show no significant increase in the incidence of these types of cancer. Thus, there appears to be no evidence that food conditions through a possible increase in sex hormones, as proposed by the inquiring physician, have had any significant effect on the incidence of cancer.

CONDYLOMA ACUMINATUM IN RECTUM

To the Editor:—*A patient has severe condyloma acuminatum in the last 6 in. (15.2 cm.) of the rectum, verified by biopsy. Because of the many growths and the tendency to recur, I prefer not to use individual cautery. I would like to know the best method of treatment, especially the possibility of using intrarectal podophyllin suspension.* *M.D., Arizona.*

Answer.—Condyloma acuminatum is best treated by excision under local or caudal analgesia, using a surgical cutting current and a fine blade or loop, like the thermal cutting unit (Cantor). Each tuft is separately elevated by means of forceps or hemostat and excised at its base. Usually there is very little bleeding. Recurrent growths are easily removed in similar fashion. If, however, the excision procedure is followed by the application of 25% suspension of podophyllin in mineral oil, there will be little tendency toward recurrence. The use of podophyllin in mineral oil as the sole treatment may be successful. A heavy application is essential, and it is better to make the application directly on each lesion rather than by an intrarectal suspension. In this case, with condylomas in the last 6 in. of the rectum, the podophyllin should be swabbed heavily on the surface of the lesions with a cotton applicator through the proctoscope. The growths usually blanch within a few hours, appear necrotic within 24 to 48 hours, and slough without ulceration or scar on the second or third day. This treatment is usually painless. It must be very complete, however, and the podophyllin must be applied heavily. If there is a tendency toward recurrence following use of podophyllin alone, surgical treatment should be used, followed by immediate application of podophyllin as described above.

LIFE INSURANCE AND RH ANTIBODIES

To the Editor:—*If an Rh-sensitive woman requests life insurance will she be considered a greater than normal risk? If such a woman had a full term pregnancy, would she necessarily be a subject for cesarean section?* *M.D., Italy.*

Answer.—The blood type of a person, whether Rh negative or Rh positive, and the presence or absence of Rh antibodies in the serum have no relation to health. There is no convincing evidence that Rh sensitization can cause early miscarriages, although if the antibody titer is high, it may cause a stillbirth when an erythroblastotic fetus dies in utero. Such stillbirths are attended with a somewhat greater risk of postpartum hemorrhage and toxemia, but hemorrhage is readily controlled by blood transfusion therapy, while toxemia, if it occurs at all, will clear up after the delivery of the dead fetus. Rh sensitization per se is not an indication for cesarean section. Experts agree that if early delivery seems desirable, this should be done by induction of labor and not by cesarean section, unless there is an obstetrical indication for operative intervention. Finally, most sensitized Rh-negative pregnant women have antibodies of only moderate titer and, therefore, give birth to liveborn erythroblastotic babies with no increased risk to themselves. Accordingly, the increased risk of pregnancy for the sensitized Rh-negative pregnant woman is statistically so small that it does not call for any increase in the premium of a life insurance policy.

CORTISONE AND ALLERGIC DERMATITIS

To the Editor:—*How long can a patient with allergic dermatitis be given cortisone (cortone®) orally without any serious hazards? My patient has no oozing while receiving four tablets daily but has while receiving three. She is receiving calcium, potassium, and thyroid, as well as a low-salt, high-protein diet. Can I continue this therapy indefinitely?*

M.D., Illinois.

Answer.—The term allergic dermatitis implies that the causal allergen or allergens have been determined. In this event, avoidance by contact, inhalation, or ingestion is indicated in treatment. If the allergen has not been determined, the diagnosis of allergic dermatitis is to be challenged, and reevaluation is indicated. Cortisone should not be used too routinely or too promiscuously. Its use is generally not desirable in a chronic recurring disease, and the effects of long-continued administration have not yet been determined. For maintenance therapy, the smallest dose that causes a therapeutic effect should be employed. Administration may be continued in the absence of untoward reactions, such as sodium retention, hypocalcemia, moon facies, psychic disturbances, striking deviation of normal functions, or appearance of unusual symptoms.

ASTHMA

To the Editor:—*Why does the hyperventilation syndrome not occur in asthmatic patients?*

Edward Dengrove, M.D., Asbury Park, N. J.

Answer.—The asthmatic patient has dyspnea, with greater difficulty of expiration than inspiration. Stagnant air in the lung is increased, the lung hypoventilates, and the carbon dioxide is likely to be increased. In other words, hypoventilation rather than hyperventilation is apt to occur in the asthmatic patient.

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